The Effects of Video Self-Modelling on Three Children with Dog Fears

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ABSTRACT

The aim of this study was to measure the effects of video self-modelling on three children with dog fears aged between 7 and 13 years old. The study also aimed to teach these three children appropriate dog safety techniques and dog body language identification skills which they could use in everyday life. All three participants were recruited through school newsletters. The three participants attended two meetings with the researcher to discuss their dog fears and what they wanted to achieve from taking part in the study. Videos of each participant were then created to depict the participants being within the same environment as a dog while acting calm and displaying coping skills. Participants were also given hypothetical scenarios of where they may encounter a dog and were asked to rate their fear level. A book was created to teach the participants how to read a dog's body language and how to behave around dogs. Participants viewed their videos and read their books for two weeks. They then went back to the same setting of the video with a real life dog and were asked to rate their fear levels for the same hypothetical scenarios. Results showed an overall decrease in reported fear levels in two of the three participants, with the third participants showing variable fear levels. It can be concluded that the video along with the book had positive effects on the participants' fear levels and knowledge about dog behaviour. One major limitation of this study is whether the video or the book alone or a combination of both was responsible for the participants' results and behaviour changes.

CHAPTER ONE
Introduction

Fears of certain stimuli such as the dark, animals, monsters and medical or dental procedures are common in childhood (King, Muris, & Ollendick, 2005). On average, fears such as these are considered to be mild, age-specific, and short-lived (King, Ollendick and Murphy, 1997b). However, some childhood fears are challenging because of their persistence, maladaptiveness and magnitude (King et al., 2005; King et al., 1997b). Specific fears such as animal fears should not be underestimated as they can cause marked distress to a child and interfere with their daily activities (King et al., 2005). Dog fears are often studied in children because this fear is not uncommon in children (Doogan & Thomas, 1992). These fears should be treated as early as possible in the individual to prevent the intensity increasing and to prevent the fear interfering with the individual's daily life.

This study sought to investigate the treatment of dog fears in children using video self-modelling. Video self-modelling (VSM) is an intervention that is used to allow individuals to view themselves on video performing certain behaviours which they previously could not perform or did not perform at a desired frequency (Buggey, 2005; Dowrick, 1999). While there are treatments available which are effective in treating dog fears in children, there are certain limitations to these, some of which are described further in this chapter. Video self-modelling offers positive and inclusive components which can enable the child to see themself engaging with the feared stimulus in a futuristic sense.

Part I: Overview of fears

Fears

In this study the terms "fears" and "phobias" will be used interchangeably. This is due to past research also using these terms variably.

Fear is a vital evolutionary trait which leads to a person, or other animal, to avoid threat and has important survival value (Marks, 1987). It is commonly considered to be a typical reaction to a genuine threat and involves at least three different response systems including overt behavioural expressions, covert subjective feelings and thoughts, and physiological activity. When an individual (or an animal) is threatened by fear or danger they tend to exhibit at least four main defence strategies. These include withdrawing themselves from the feared stimulus and avoiding it; becoming immobile such as being unable to move or "freezing up"; threatening or attacking the feared stimulus, if possible; and trying to deflect or inhibit themselves (becoming submissive) (Marks, 1987).

Fear is an emotion which is produced due to the presence of, or impending danger, and is an appropriate response in some situations (Marks, 1987; Nicastro & Whetsell, 1999). Fear, in its less extreme state, can be quite rewarding to some. For example, many people actively seek out and expose themselves to dangerous and extreme hazards due to the nature of the activities. These people include racing car drivers, bungee jumpers, and mountain climbers (Marks, 1987).

Young children tend to have more fears than adults and these fears are very common (Marks, 1987; Muris & Rijkee, 2011). The most common fears in childhood include fears of the dark, animals, heights, blood, medical, or dental procedures (King, Heyne, Gullone, & Molloy, 2001; King et al., 2005; Muris, Steerneman, Merckelbach, & Meesters, 1996). Some fears within the child (such as fears of

animals) rise rapidly from the preschool years only to decrease at a later age. Only a small number of fears rise from adolescence onward such as a fear of sex, a fear of failure, and a fear of being unable to escape in certain environments such as crowds (agoraphobia) (Marks, 1987). Muris et al. (1996) found that older children are more fearful of social evaluation and incompetence.

Definition of fears

The term *phobia* is commonly used to represent a specific phobia in which at least one of the three response systems is excessive, persistent, and adaptive (Graziano, DeGiovanni, & Garcia, 1979). Common phobias can include a fear of the dark, fear of spiders, and a fear of heights. It is generally agreed that fear is often a normal response to threatening stimuli, whereas a phobia is often an unreasonable response to a stimuli (Marks, 1987).

The definition of fear is well documented. Extreme fears which interfere with normal functioning usually meet criteria for specific phobia in the *Diagnostic and Statistical Manual of Mental Disorders 4th Edition (Text Revised)* (DSM-IV-TR), labelled as an anxiety disorder (American Psychiatric Association, 2000).

A. Marked and persistent fear that is excessive or unreasonable, cued by the presence or anticipation of a specific object or situation (e.g. flying, heights, animals, receiving an injection, seeing blood).
B. Exposure to the phobic stimulus almost invariably provokes an immediate anxiety response, which may take the form of a situationally bound or situationally predisposed panic attack. Note: in children, the anxiety may be expressed by crying, tantrums, freezing, or clinging.
C. The person recognizes that the fear is excessive or unreasonable. Note: in children, this feature may be absent.

D. The phobic situation(s) is avoided or else is endured with intense anxiety or distress.

E. The avoidance, anxious anticipation, or distress in the fear situation(s) interferes significantly with the person's normal routine, occupational (or academic) functioning, or social activities or relationships, or there is marked distress about having the phobia.

F. In individuals under age 18 years, the duration is at least 6 months.

G. The anxiety, panic attacks, or phobic avoidance associated with the specific object or situation are not better accounted for by another mental disorder, such as Obsessive-Compulsive Disorder (e.g. the fear of dirt in someone with an obsession about contamination), Posttraumatic Stress Disorder (e.g., avoidance of stimuli associated with a severe stressor), Separation Anxiety Disorder (e.g., avoidance of school), Social Phobia (e.g., avoidance of social situations because of fear of embarrassment), Panic Disorder with Agoraphobia, or Agoraphobia Without History of Panic Disorder. (American Psychiatric Association, 2000, pp. 449-450).

The DSM-IV (TR) describes specific types of fears: animal type, natural environment type (e.g., heights, storms, and water), blood-injection-injury type, situational type (e.g., airplanes, elevators, and enclosed places), other type (e.g., fear of choking, vomiting, or contracting an illness; in children, fear of loud sounds or costumed characters) (American Psychiatric Association, 2000, pp. 450).

According to Kessler, Berglund, and Demler (as cited in Wolitzsky-Taylor, Horowitz, Powers & Telch, 2008), specific phobia ranks as the most common anxiety disorder, with an overall lifetime prevalence of 12.5%. Yet, the DSM-IV (TR) states that prevalence reports vary depending on the threshold used to determine impairment

or distress and the number of types of phobias surveyed (American Psychiatric Association, 2000).

Animal phobias have been well studied. Individuals with animal phobias have been studied in more detail than most other specific phobias (Marks, 1987). Animal phobias are isolated fears of animals or insects such as birds, cats, dogs, frogs, spiders, moths, butterflies, bees, and wasps. These phobias usually involve fear and avoidance of the specific animal, rather than fear of contamination by them (Marks, 1987). Fear of contamination from animals would be classified as obsessive compulsive disorder.

Fear acquisition and development

Since the late nineteenth century, the aetiology of children's fears and phobias has been a perplexing issue for both researchers and practitioners. King, Eleonora, and Ollendick (1998) suggest that the acquisition of children's fears and phobias are possibly due to a multifaceted interaction between genetic, constitutional and environmental factors, whereas Muris et al. (1996) suggest that childhood fears emerge due to the child perceiving dangers within their environment but is not able to understand them fully or exercise full control over them. Fears are then considered to be adaptive within this view.

Rachman's theory of fear acquisition. According to Rachman's theory of fear acquisition (1977) there appear to be three main pathways in the development of fears and phobias. These include direct conditioning, modelling, and instruction/ information (King et al., 1998).

Conditioning. Conditioning refers to neutral stimuli being associated with a fear or pain-producing state of affairs. The neutral stimulus then develops fearful qualities and then becomes a conditioned stimulus. The strength of the fear depends on the

number of repetitions of the association between the pain/fear experience and the stimuli, and on the intensity of the pain/fear experienced in the presence of the stimuli. Stimuli which resemble the fear-evoking stimuli can also acquire fearful properties. This could help explain why people develop multiple fears and phobias to stimuli which are similar such as rodents and spiders.

An example of conditioning is Albert B, also known as the Little Albert experiment, who as a young infant was the main focus of John Watson and Rosalie Rayners study in 1920. Little Albert displayed fearful behaviours toward stimuli which were similar to his original conditioned fear, a white rabbit. When Little Albert was exposed to a white rat, a set of familiar blocks, a rabbit, a short-haired dog, a sealskin coat, a package of white cotton, the heads of Watson and two of his assistants, and a bearded Santa Claus mask, Little Albert displayed strong fear responses to the rat, the rabbit, the dog, and the sealskin coat. He displayed negative responses to the mask and to Watson's hair and a mild response to the cotton (Harris, 1979).

Modelling. Modelling, or vicarious conditioning, plays an important role in the development of fears as children are most likely to imitate the way their parents react and respond to certain stimuli. These stimuli are then likely to develop fearful qualities for the child if the parent reacts in a fearful way as they model the parents' reactions.

Instruction/information. The third pathway, instruction/information has often been overlooked, perhaps due to its apparent obvious nature. Rachman notes that fears which are acquired through information or instruction are more likely to be mild than severe. This could help explain why this pathway is often overlooked. In a study by Muris et al. (1996), the results showed that children scored higher on the Fear Survey

Schedule for Children (FSSC) (Scherer & Nakamura, 1968) if their mothers expressed their own fears to them; the children whose mothers did not express their fears to their children scored lower.

A study conducted by King, Clowes-Hollins and Ollendick (1997a) addressed the possible mechanisms involved in developing a fear of dogs. King et al. (1997a) surveyed parents of 30 children aged between 1 to 12 years of age who had a phobia of dogs. In their survey, and drawing on Rachman's theory, the parents were asked to choose the most likely of Rachman's three options as a cause for their child's fear. The results showed that almost all parents recognised their child's dog phobia originated from one of Rachman's three pathways. The majority of parents (53%) believed that modelling was the most important influence, while 27% of the parents believed direct conditioning events, such as being bitten by a dog, were the major reason of their child's phobia. Very few parents (7%) believed that instructions/information was the major pathway. The remaining parents (13%) did not know the origin of their child's phobia. These results help illustrate that fears developed by information/instruction are less commonly reported than direct conditioning or modelling.

Gender differences with fear

More often than not, there are few differences between girls and boys with fears (Muris & Rijkee, 2011), however, Marks (1987) reported more fearfulness amongst girls. An explanation for this could be that boys want to conform to the masculine gender role and thus not report their fears, while girls intensify their fears to conform to the feminine gender role (Muris & Rijkee, 2011). In adults, gender differences vary with the type of feared situation (Marks, 1987). Interpretation of the research regarding gender difference with fear can be difficult due to sex role expectations;

girls appear more willing to admit and report their fears rather than the boys (Graziano et al., 1979; Ollendick & King, 1994).

Ollendick and King (1994) conducted a study looking at the level of interference in everyday living results from fears in 648 Australian adolescents. Self report details showed an average of 9 main fears reported with the majority of the fears concerning physical danger and safety. Two of the most commonly reported fears, getting poor grades and failing a test, involved social-evaluative fears. Girls reported more fears than boys. This study helps support the previous claim from Muris et al. (1996) that adolescents fear social evaluation and girls often report more fears than boys. Ollendick and King (1994) do not address why girls often report more fears than boys, however, the results from the study are unlikely to be attributed to a difference in gender when responding to instructions in the study. In general, over 85% of these adolescents reported that their fears interfered with their daily activities and prevented them doing activities they otherwise like to do or felt they should do. When describing the limitations of their study, Ollendick and King (1994) questioned the reliability of the self-reports, and the reliability as to whether or not the adolescents' fears were *truly* distressing and interfered significantly with the adolescent's daily routines.

Treatments of fears and phobias

Individuals who do seek treatment for their fears and phobias are given a choice of multiple effective interventions, including (but are not limited to) systematic desensitisation, cognitive therapy, modelling, imaginal or virtual reality exposure, and direct *in vivo* exposure (King et al., 1997b; Wells & Papageorgiou, 2001; Wolitzky-Taylor et al., 2008). Treatments used to treat fears all stem from conditioning paradigms, such as classical conditioning, operant conditioning, and vicarious

conditioning (King et al., 1998). Bandura, Blanchard and Ritter (1969) state that treatment approaches that are based on social-learning principles have the ability to be highly effective in creating generalised and enduring psychological changes.

There is now evidence which suggests that people who suffer from specific phobias are hesitant to seek treatment despite the growing number of effective interventions used to treat phobias (Bandura et al., 1969; Wolitzky-Taylor et al., 2008). There are various reasons for the reluctance to seek treatment. These include people either viewing their phobias as being untreatable, or being unaware of available treatments and interventions. Also, many phobic individuals avoid available treatments as treatment involves direct confrontation with the phobic stimulus and they may be apprehensive about directly confronting their specific phobia. Around 25% of phobic patients refuse exposure-based treatments due to fear of facing the stimulus (Wolitzky-Taylor et al., 2008). Bandura et al. (1969) have raised doubt surrounding direct treatment approaches for fears and phobias which stems partly from the widespread belief that anxiety and fear can only be treated through verbal interpretive means.

Treatments of dog fears and phobias

Various treatments are available to individuals with a fear of dogs and have been used previously to demonstrate their effectiveness. These treatments include modelling, feeding, learning based procedures, systematic desensitisation, flooding, active imaginal exposure, and reinforced practice (Table 1).

A literature search for treatments of dog fears and phobias was conducted through Embase, PsycARTICLES, PsycINFO, Google scholar, and Education Research Complete. Key search terms used included dog phobia AND treatment, dog fear AND

treatment, dog fear*, dog phobia*, and modeling. Table 1 shows the results for treatments for individuals with dog fears and phobias.

Table 1
Overall summary of treatment studies for fears and phobias of dogs in individuals

Author	Participants and setting	Measures	Treatment	Results
Bandura, Grusec and Menlove (1967)	48 dog phobic children between 3 and 5 years old; test room	Behavioural avoidance test	Peer modelling	Experimental group had generalized reduction in avoidance behaviour
Bandura and Menlove (1968)	48 dog phobic children between 3 and 5 years old; test room	Behavioural avoidance test	Peer modelling (single model vs. multiple models)	Multiple modelling most effective in weakening fears
Kroll (1975)	1 woman aged 22 years; animal shelter	Not stated	Feeding procedure	Was able to approach dogs without distress
MacDonald (1975)	One boy aged 11; clinic centre and outdoors	Not stated	Learning based procedures, including modelling	Reported less worry when outside with dogs
Sreenivasan, Manocha and Jain (1979)	2 females aged 10 and 11 years; hospital	Interviews	Systematic desensitisation and flooding	1 girl phobia free at 19mth follow-up; flooding more effective
Ladouceur (1983)	36 individuals with dog and cat phobias	Behavioural test, self-efficacy ratings, and anxiety ratings	Various participant modelling approaches	Found no difference in various participant modelling approaches
Glasscock and MacLean Jr. (1990)	1 female aged 6 years; 3 different outdoor settings	Not stated	Contact desensitization; shaping; family counselling	Contact desensitization reduced anxious responses to dog
Rentz, Powers, Smits, Cougle, and Telch (2003)	82 dog phobic adults; not stated	Behavioural avoidance test, ADIS, CIDI	Active-imaginal exposure	Had limited success
Newman and Adams (2004)	1 male aged 17 years; outdoors	Interviews and direct observations	Systematic desensitization and peer modelling (by mother)	Positive effects were maintained at 18 month follow-up
May, Rudy, Davis III and Matson (2013)	1 male aged 4 years; one female aged 5 years	ADIS-IV:P; CBCL	Reinforced practice and participant modelling	Both children had significant improvements over 10 to 13 sessions

Systematic desensitisation (SD). Systematic desensitisation (SD) refers to an individual being taught ways in which to relax their voluntary body muscles during imaginal confrontation with the feared stimulus. In its traditional form, SD is comprised of three distinct components: training in progressive muscle relaxation; negotiation and construction of a fear-producing stimulus hierarchy; and the systematic, graduated pairing of the hierarchy with the relaxation techniques (King et al., 2005; Wolitzky-Taylor et al., 2008).

A fear hierarchy is a list of situations which contain the feared stimuli to which an individual reacts with various amounts of anxiety. The most feared situation or stimuli is placed at the top while the least feared situation is placed at the bottom of the hierarchy (Wolpe, 1958). King et al. (2005) describe that while the person is relaxed, the feared stimuli are presented in imagination and real-life in order of least feared to most feared.

While phobic adolescents are able to benefit from SD, some aspects usually require some modification for younger children. These changes are required to reflect their level of physical maturation and cognitive-verbal skills (King et al., 2005). Emotive imagery is often used with children who have difficulty with SD.

Newman and Adams (2004) used SD with modelling to treat a 17-year-old boy who had a severe phobia of dogs along with a moderate learning disability. With the boy and the experimenter, a fear hierarchy was developed and progress was made by increasing the exposure to dogs while controlling and maintaining anxiety levels through relaxation techniques such as muscle relaxation and breathing exercises. His mother also modelled appropriate behavioural responses to him when approached by a dog. Results showed that after 28 sessions, the boy was able to manage his anxiety levels and his behaviour when in the same environment as an unfamiliar dog.

Emotive imagery (EI). Emotive imagery is a variant of systematic desensitisation and is used for children who experience some sort of fear or phobia. Developed by Lazarus and Abramovitz (as cited in King et al., 2001), the basic concept of emotive imagery is visualisation where the individual visualises images which arouse feelings of self assertion, pride, affection, glee, and other similar anxiety-inhibiting responses into an engaging story. This then evokes a strong positive affect within the child. Emotive imagery is often also known as "story form" desensitisation. According to Lazarus and Abramovitz (as cited in Shepherd & Kuczynski, 2009), there is a certain procedure in which emotive imagery follows. This includes determining the range, intensity and circumstances of the child's fears to which a hierarchy is then established ranging from the least feared to the most feared situation. Shepherd and Kuczynski (2009) helped treat a boy with a nocturnal fear of ghosts and zombies using emotive imagery. After seven treatment sessions, the frequency of his nightmares decreased. A follow up could not be offered in this study due to service restrictions (Shepherd & Kuczynski, 2009).

Imaginal exposure (IE). The IE approach requires the patient to imagine a confrontation between themselves and the feared stimulus. Unlike classical SD, where a number of sessions are dedicated to relaxation training, IE tends to exclude the relaxation component (Wolitzky-Taylor et al., 2008). Imaginal exposure is also often used in helping to treat post-traumatic stress disorder (PTSD) (Minnen & Foa, 2006). It has been used in a hybrid of both an in vivo component and IE in a study to treat 82 individuals with dog phobias (Rentz et al., 2003).

Modelling (as an intervention). Modelling approaches such as filmed modelling, peer modelling, and self-modelling have been used effectively as a treatment intervention for children and adults with fears (Bandura et al., 1969; Bandura, Grusec,

& Menlove, 1967; Bandura & Menlove, 1968; Dowrick & Dove, 1980; Ladouceur, 1983; Meichenbaum, 1971; Melamed & Siegel, 1975; Melamed, Yurcheson, Fleece, Hutcherson, & Hawes, 1978). Karila (1987) suggests using an individual demonstrating non fearful behaviour in the presence of the feared stimulus and showing appropriate responses for handling the feared stimulus. Anxiety is then reduced in the phobic individual and essential skills are learned (King et al., 2005).

Karila (1987) describes some common principles when using modelling to treat fear in children. The paper mentions using another child or someone similar to the child on a film. She also mentions that if the model on film is slightly afraid at the beginning of treatment and then copes with their fear; the child will benefit more. This article helps strengthen the use of modelling to help children with overcoming their fear. Meichenbaum (1971) also found that using a coping model who initially displays fear but then overcomes it had a better outcome in reducing fear in individuals than showing mastery models who display no fear at all.

Part II: Modelling and the use of modelling in treatments for fears and phobias

Literature search

A second literature search was conducted using the following electronic databases: Embase, PsycARTICLES, PsycINFO, Google scholar, and Education Research Complete. This search was designed to focus on dog fear or phobia, modelling and video self-modelling. The following descriptions were video self-modelling, video self-modeling, self-modeling, fear, phobia, dog phobia, dog fear, single-case, Peter Dowrick, and cynophobia. The self-modelling descriptions were added to broaden the literature search from fears and phobias mentioned previously.

Observational learning and modelling

We, as humans, learn a lot from others by simply observing their behaviour. Some behaviours must be acquired through either direct experience or through observation (Bandura, 1977). Modelling is an instructional approach which is based on the theory of observational learning (Prater, Carter, Hitchcock, & Dowrick, 2012).Observation provides information about what we could possibly learn to do in terms of behaviour (Dowrick, 1986), and behaviour change could occur following observation of similar behaviours (Dowrick & Biggs, 1983). The concept of observational learning, or modelling, was first introduced by Albert Bandura in the 1960s as part of his influential work on social learning theory (Bellini & Akullian, 2007). Bandura (1969, as cited in Dowrick & Biggs, 1983) claims that observational learning is one of the most important influences on personality development. According to Bandura (1977), there are four main processes involved in observational learning. These include attentional, retention, motor reproduction, and motivational.

Attentional processes. Attentional processes determine exactly what is selectively observed, with the observer paying attention to the modelled events (Grusec, 1992). The rate and level of observational learning is also determined by the nature of the modelled behaviours themselves, for example, the importance of the behaviour and complexity of it. An individual's past experience and situational requirements affect what features they extract from the observations and also how they interpret what they see and hear. Television, for example, is a powerful modelling component which can hold an individual's attention for long periods of time (Bandura, 1977; Grusec, 1992). Bandura, Grusec and Menlove (as cited in Bandura, 1977) state that models which are represented though television (and the internet in today's society) are very effective in

capturing the viewer's attention and viewers can learn a lot from what they see without requiring any special incentives to do so.

Retention processes. One must be able to retain in the mind an observation in order to be able to model the behaviour. When the model is no longer available to the individual for guidance and direction of the behaviour, the response patterns must be represented in memory in symbolic form. These observed behaviours are then represented in imaginal or verbal representational systems (Bandura, 1977; Grusec, 1992).

Motor reproduction processes. The third component of observational learning involves the conversion of the symbolic representation into appropriate actions. These actions must be similar to the ones previously demonstrated by the model (Grusec, 1992). The individual must also already possess the motor skills and component skills in order to achieve the modelled behaviour. If the behaviours are not within the observer's repertoire then the reproduction of the modelled behaviour can become faulty. It is important to develop the basic skills of the modelled behaviour first before moving on to other complex skills required for the behaviour.

Motivational processes. There must be sufficient incentives such as rewards to motivate the actual performance of modelled behaviours by an individual (Grusec, 1992). Behaviours are more likely to be performed if the outcome is rewarding or valued. Conversely, behaviours are more unlikely to be performed if the outcome has an unrewarding effect. Additionally, Dowrick (1999) states that one will pay more attention if self image is used, and if the observed behaviour is highly valued it provides an obvious source of belief.

Modelling, when used as a treatment with phobic children, has been most effective in studies conducted by Bandura and Menlove (1968), Blanchard (1970), and

MacDonald (1975). Reinforcing cognitive self-statements made either by the individual or by another person are crucial in maintaining the new approach behaviour (Graziano et al., 1979). These studies show that modelling is effective by having the participant view other individuals (such as the models) displaying the desired behaviours toward the feared stimulus.

This early work in the 1960s by Bandura and colleagues (Bandura et al., 1967; Bandura & Menlove, 1968) helped illustrate the effectiveness of modelling in eliminating avoidance behaviour in young children. Moreover, Bandura et al., (1969) expanded this idea by using modelling to modify long-standing phobic behaviours in 48 adults. These three studies were the earliest key literature findings where pair modelling approaches with reduced, eliminated or modified phobic behaviours in individuals. In video modelling treatments for phobias, watching another individual on video appears to be least effective, whereas participant modelling (self-modelling along with assistance from the clinician or therapist) is most effective (King et al., 2005).

Bandura et al., (1969) used modelling along with desensitisation approaches to provoke behavioural, affective, and attitudinal changes in individuals with a phobia of snakes. Participants included 5 males and 43 females and were aged between 13 to 59 years. Virtually all participants had affected psychological functioning resulting from their phobia in various ways. These included some individuals being unable to perform their occupational duties in certain areas due to their fear of coming into contact with snakes, being unable to take part in outdoor activities such as hiking, camping, or gardening and other places where there may have been a snake, or encountering great distress when they were confronted without warning with pet snakes.

The participants were randomly assigned to one of four conditions, with each group containing 12 participants. The first condition included participants receiving the standard form of systematic desensitisation. The second condition required participants taking part in a self-administering symbolic modelling treatment where they observed a film displaying an individual interacting with a snake. Participants in the third condition group received treatment combining graduated live modelling with guided participation. This involved participants being aided through demonstration and participation to perform approach behaviours toward the snake previously modelled by the experimenter. The final condition was a no treatment condition.

Of the three treatment conditions used in the study, modelling with guided participation was shown to be most effective. Participants in the third condition, the graduated live modelling with guided participation, achieved the greatest performance overall and was most successful in eliminating snake phobic behaviour, in eliminating fear arousal, and in creating favourable attitudes. Both symbolic desensitisation and symbolic modelling were equally effective in eliminating snake avoidance behaviour. However, symbolic modelling produced a greater reduction in negative attitudes and fear arousal to snakes, and the behavioural changes seemed to be more generalized in naturalistic settings (Bandura et al., 1969).

These studies indicate that the concept of using modelling as a treatment for fears has been used as early as the 1960s, and has been shown to be effective in decreasing fears with a range of individuals.

Imaginal modelling

Otherwise known as “mental rehearsal”, imaginal modelling is another form of modelling in which the individual imagines themselves performing the desired behaviour (Dowrick, 1999). Druckman and Bjork (as cited in Dowrick, 1999) report

that studies using imaginal modelling have positive results but modest effects. Although imaginal modelling requires no equipment and less effort from therapists, trainers and teachers, it is less vivid and reliable (Dowrick, 1999).

Peer modelling

A peer model refers to an individual who is closely equivalent in age, skills, or status to the observer, and is used instead of an expert model (Nikopoulos & Keenan, 2006). Peer modelling has been successfully used by Melamed and Siegel (1975), McAlister, Ama, Barroso, Peters and Kelder (2000) and Newman and Adams (2004).

"Filmed modelling" and "symbolic modelling" are terms used by Bandura and colleagues in the 1960s (Bandura et al., 1969; Bandura & Menlove, 1968) and Melamed and Siegel in the 1970s (Melamed & Siegel, 1975). Filmed modelling is similar to peer modelling in the sense that the individual watches another individual performing behaviours on video rather than themselves, with either single peer models or multiple peer models used on video. Live modelling with guided participation refers to a therapeutic technique in which a model demonstrates a desired behaviour and the individual is aided through further demonstration and joint performance to imitate the modelled behaviour (Bandura et al., 1969).

Gilbert et al. (1982) investigated the use of a peer-modelling film on anxiety reduction and teaching the skill of self-injecting insulin in 28 diabetic children between 6 and 9 years. An experimental group watched a video consisting of two children aged 6 and 8 years undergoing self-injection training which resulted in successful self-injection. The control group in the study watched a video regarding nutrition and also contained the same peers who were in the experimental peer-modelling video. Results showed there was no difference in the participants' anxiety levels in either group, quite possibly due to the participants having little anxiety to

begin with. Despite this finding, the peer-modelling film did improve the self-injection skills in the older girls, with the older girls making no serious errors in self-injection insulin compared to 36% of the older girls in the control group (a serious error was described as an error that resulted in the wrong insulin dosage being absorbed).

Self-modelling

The terms "self-modelling" and "self-as-a-model" were, according to Dowrick (1999), created in the context of video and were first used as a special case of peer modelling or "other" modelling in the 1970s (Dowrick, 2012b). The term "self-modelling" was used in the 1990s for the video medium and has since been renamed "video self-modelling" or VSM. Today, both terms are used interchangeably in literature, although "self-modelling" is still used but is not limited to only video as photos, audio and print can also be used (Dowrick, 2012).

Positive self-review and feedforward. Dowrick (1999) claims there are two sub classifications within self-modelling, namely positive self-review and feedforward. Positive self-review (PSR) typically involves creating a video which displays optimal examples of a behaviour being performed by an individual. For an example see Collier-Meek, Fallon, Johnson, Sanetti and Delcampo (2012). Positive self-review is suited to improving the rate of a behaviour which is currently being performed at an undesirable rate or level (Dowrick, 1999).

Feedforward refers to a constructed image of success which illustrates achievement beyond the individual's current capability (Dowrick, 2012a) but these behaviours are still within the individual's repertoire. The term "feedforward" was constructed to contrast with "feedback" which illustrates present or past performance (Dowrick, Kim-Rupnow & Power, 2006). The most important aspect of feedforward videos is

that the individual is able to see themself being successful in a futuristic sense. Feedforward focuses on learning from the future rather than learning from the past (Dowrick, 2012). Dowrick et al., (2006) also state that there is a time limit in which feedforward videos are effective. They go on to say that if an individual improves their performance or behaviour then that video no longer provides feedforward. If the behaviours of that individual do not improve, they are most likely to become bored.

Mental time travel (MTT) is a concept related to feedforward and is a necessary condition for future behaviour to occur (Dowrick, 2012a). Mental time travel refers to the ability of humans mentally projecting themselves backwards in time to re-live past events, or forwards to pre-experience futuristic events (Dowrick, 2012b; Suddendorf & Corballis, 2007). This concept has only recently come to light with regard to feedforward but it is still to be developed further in the research. Today, neuroscientists are studying the role of MTT in foreseeing the future but are still yet to consider how MTT may influence the future of an individual in terms of behaviour (Dowrick, 2012b).

Video self-modelling

Video self-modelling (VSM) is a strength-based intervention that was first introduced in the 1970s (Creer & Miklich, 1970; Buggey & Ogle, 2012, Collier-Meek et al. 2012) and is designed to teach new skills and develop the use of existing skills in young children, youth and/or adults. Video self-modelling includes observational learning and imitation of one's self, or someone closely similar to the participant, on a video recording which displays the desirable specific behaviours (Wert & Neisworth, 2003). Dowrick (1999) and Collier-Meek et al. (2012) have suggested that the typical length of a self-modelling video is between two to four minutes long. This is long enough to depict the target behaviour without losing the viewers attention.

One of the earliest studies regarding using an individual as their own model on video came from Creer and Miklich (1970) who used a boy named "Chuck" to model appropriate behaviours on film for him to then watch later (Dowrick, 1999). Two separate videos were created with each displaying either appropriate behaviours or inappropriate behaviours. Inappropriate behaviours included Chuck remaining in bed with the light on, displaying a tantrum when assaulted by two boys, being rejected by two boys after asking them to play, and jumping onto the lap of an adult. Appropriate behaviours included getting out of bed promptly, physically defending himself and resisting a fight with two boys, appropriately initiating play with two peers, and interacting appropriately with an adult. A break of two weeks occurred before Chuck viewed the videos. This was designed to verify whether the role play would modify Chuck's behaviour alone. After the third viewing of the appropriate behaviour video, Chuck began to display appropriate behaviours as in the video that occurred for the two week period. After watching the inappropriate behaviour video, Chuck began exhibiting inappropriate behaviours as in the video. When he watched the appropriate behaviours video again, Chuck again displayed the appropriate behaviours. An interesting note was made by the researchers that many of the observations made regarding Chuck's behaviour came from professionals who were unaware of Chuck's participation in the study. This early study helped create the concept of using self-modelling procedures on video.

Video self-modelling has been used with a wide range of people, different abilities, and a range of ages (Buggey, 2005; Dowrick & Dove, 1980; Dowrick & Ward, 1997; Dowrick et al., 2006). The different types of behaviours that VSM has been used for, but is not limited to, include academic performances such as reading (Dowrick et al., 2006), social behaviours such as decreasing negative social behaviours (Buggey,

2005), language and speech such as treating mute children (Kehle, Owen, & Cressy, 1990), motor skills such as helping a young girl with cerebral palsy to walk (Dowrick & Biggs, 1983), and behaviours associated with emotional disabilities such as helping students with depression (Kahn, Kehle, Jenson, & Clark, 1990) (Buggey & Ogle, 2012). Video modelling is used within the sports psychology field (Boyer, 2009). Video self-modelling has also been shown to be effective with children with autism across the four categories of language/ communication, social skills, behaviour and task instruction (Gelbar, Anderson, McCarthy, & Buggey, 2012). The only area where positive effects are not universally realised with VSM is with the pre-school age group (Buggey & Ogle, 2012). Some studies containing this age group have produced positive results with VSM (Crandell & Johnson, 2009; Litras, Moore, & Anderson, 2010; Wert & Neisworth, 2003), yet other studies using this age group including Buggey (as cited in Buggey & Ogle, 2012) and Clark, Beck, Sloane, and Goldsmith (1993) have found no change in behaviour. Overall, the literature suggests that at the lower age limit VSM is no longer effective (Buggey & Ogle, 2012). Clark et al. (1993) state that the failure to demonstrate positive effects for self-modelling in their study may have been due to a number of features including the participants' young age. Furthermore, they state that preschool aged children may be disadvantaged from self-modeling in its purest form as they lack the cognitive process required for observational learning, such as, actively attending, conceptualising and acting out to overtly imitate the self-modelled behaviours. Aside from this age-based limitation, VSM appears to be a useful and valuable technique that can be used with anyone who can attend to a video.

The evolution of VSM has been slow. This is possibly due to the way that technology has grown in other aspects over the past 30 to 40 years (Buggey & Ogle,

2012). A self-modelling video almost always requires some degree of video editing so behaviours which are seen as inappropriate or maladaptive can be edited out of the final video. Only positive or adaptive behaviours are shown in the final video for the individual to imitate. Adult prompting is also typically removed unless it is relevant to the behaviour such as responding to a teacher's questions (Buggey & Ogle, 2012). The use of VSM in educational and therapeutic settings has been slow in evolving probably due to technology and the skills required for creating and editing videos (Buggey & Ogle, 2012). With today's modern technology, videos can be created with easy to use video-editing software such as iMovie (Apple) and MovieMaker (Microsoft). This technology has contributed to an increase in the use of VSM in research and practice (Buggey & Ogle, 2012; Dowrick, 1999).

As an early example of VSM, Dowrick and Dove (1980) used VSM to help children with spina bifida improve their water skills. These children were described as having a "lack of progress" in swimming due to fearfulness and lack of actual skills rather than their physical disabilities. A self-modelling video was made for each of the three participants showing them performing behaviours that slightly exceeded their current ability. Moderate, yet clear gains, were reported and the behaviours that the children acquired were described by the experimenters to be similar to those shown on the video.

Video self-modelling studies using positive self-review and feedforward. Positive self-review and feedforward self-modelling videos have been used with studies with a wide range of behaviours. For example, PSR VSM has been used to help children decrease off-task behaviour (Coyle & Cole, 2004) and increase on-task behaviour (Clare, Jenson, Kehle, & Bray, 2000). Feedforward VSM has been used to increase reading fluency (Dowrick et al., 2006; Robson, in press), help children with

selective mutism (Kehle et al., 1990), aid walking (Dowrick & Biggs, 1983), and help treat depression among high school students (Kahn et al., 1990).

Graetz, Mastropieri, and Scruggs (2006) used positive self-review VSM with a 13 year old boy with autism to decrease his inappropriate hand-wringing and arm-flapping, which appeared to be precursors to more violent behaviours. The desired behaviours were videotaped (the boy sitting with his arms and hands down), and the video was shown to him when he initially became agitated. Over time, the boy's inappropriate behaviour decreased which demonstrated that VSM was effective in this case. Cases such as this provide evidence that VSM is effective in helping children with stereotypic behaviour change their behaviour to more appropriate behaviours.

Martin Hood (2004) conducted a study as part of a Masters thesis which compared the effectiveness of VSM to peer-modelling in increasing self-efficacy in dealing with spiders and reducing spider phobic symptoms in 16 spider-phobic individuals. Participants were matched in pairs according to the severity of their phobic symptoms. Treatment included one member of each pair watching an eight minute self-modelling video of them coping well with a spider (made by using a blue screen). The other member of the pair also watched a copy of the same video. This made the self-modelling video a peer modelling video. All participants watched their video once every second day for two weeks with a total of seven exposures. The participants were requested to record their subjective anxiety and self-efficacy at each viewing. They were then reassessed immediately after the two week period and again at a six-week follow-up. Hood found that the participants' self-efficacy levels improved more after self-modelling than after peer-modelling. Participants who had watched the self-modelling video displayed more reductions in phobic beliefs and self-reported symptoms.

Although there appears to be very little published work on the effectiveness of VSM for treating fears and phobias, both filmed modelling and symbolic modelling have been previously successful in reducing fears and phobias in young children. Symbolic modelling is designed to produce changes (specifically) by eradicating emotional arousal to symbolic representations of the phobic object (Bandura et al., 1969).

Melamed and Siegel (1975) conducted a study which looked at helping to reduce hospital anxiety in young children. One hundred and twenty children, aged between 4 and 12 years old were selected to be in either a control group or experimental group. The experimental group (60 children) were shown a video of a peer model, a seven year old male, who had been hospitalised for a hernia operation and consisted of 15 scenes showing various events which most children encounter when going in for surgery from the time of admission to time of discharge. The control group (60 children) were shown a video which was unrelated in content to hospitalisation. In both groups, palm sweats, self reports, and behavioural observations were collected to measure the effects the children's levels of anxiety. The findings showed the children in the experimental group showed lower sweat gland activity, fewer self-reported medical concerns, and less anxiety-related behaviour than children in the control group at both the preoperative and postoperative assessments. These findings suggest that filmed modelling was effective in reducing the hospital anxiety in this group of children.

Aim of this thesis

Drawing on the previous research findings on VSM and fears in children, the aim of this thesis was to measure the effects of VSM as a treatment for fear of dogs in children aged between 7 and 13 years old. The overall aim was not to completely

eliminate the participant's fear of dogs but to also teach them appropriate dog safety techniques that they could use in everyday life, and also for them to be able to identify dog behavioural states through the dogs body language. This aspect is important as many dog attacks which occur to individuals can often be prevented if the person is able to read the dog's body language and know how to act appropriately. For example, if a dog is standing stiffly with their ears pointed back, has their tail up high, and their teeth are exposed, then the child will know that these are signs that the dog is angry and should be left alone. However, if the fear was completely eliminated and the child was not taught appropriate dog safety techniques they may still approach a dog which could lead to an attack, therefore, appending the fear back into the child. The approach taken for this study was one of safety, knowledge of dog behaviour and decreasing the child's fear of dogs through VSM and a book.

The research question for this thesis was, what are the effects of VSM on fear responses, knowledge about dog behaviour and appropriate approach behaviour to dogs in children aged between 7 and 13 years?

CHAPTER TWO

Method

Design

A non-concurrent within-participants experimental research design was used in this study. An AB single-case design was used, and repeated across subsequent participants, so that each participant could serve as his or her own control. This means that they could not be compared against each other, but instead were compared within themselves.

Ethical Considerations

Prior to recruiting participants, ethical approval was obtained from the University of Canterbury Human Ethics Committee (Appendix A). All children and their parents were given information sheets (Appendix B) regarding the study and gave informed consent (Appendix C). All the participants' names have been changed for anonymity. Els Desart from Trainimals gave consent for her name to be used in this thesis.

The main ethical concern for this thesis was how to keep the participants safe at all times. This meant that the participants were not exposed to the dogs directly at Baseline or at Post Intervention Phase 1. Each participant responded to hypothetical situations concerning how scared/fearful they would feel in certain situations. However, all three participants interacted with dogs in real life at Post Intervention Phase 2 but only with parental permission and under carefully controlled circumstances.

Participants and Settings

The participants were three typically developing children who reported, along with their parents, that they were afraid of dogs and wanted to address this problem. One of

the participants was male aged 7 years, while the other two participants were female aged 9 and 13 years respectively. The participants in this study were recruited through their school newsletters. The participants were selected in order of presentation.

Various settings were used in this study and are described under participant profiles below. In addition to attending the University Dovedale/Pukemanu Centre for an initial assessment and watching their intervention video at home, the participants selected their own setting for their individual video. They chose their own environments where they enjoyed spending time but avoided because of their fear at encountering a dog.

Participant Profiles

Participant 1. Michaela was a 13 year-old female with a fear of dogs, particularly larger dogs and very small breeds such as the Jack Russell. When Michaela was approximately two years old, her mother stated that she was frightened by a dog. Since this incident, Michaela has been afraid of dogs and has said she often avoids places, such as her local park, where she thinks there might be dogs around.

Michaela chose the local beach for her self-modelling video setting as she wanted to be able to enjoy the beach during the summer without feeling anxious or afraid if there were dogs there.

Participant 2. Lauren was a nine year-old female. At around the age of five years, Lauren's mother reported she displayed signs of being afraid of dogs and has continued to be afraid since then. An incident occurred approximately 18 months prior to the study which involved Lauren and her sister being chased by a dog at the local park. This left Lauren feeling more fearful of dogs and very nervous about going to her local park.

Lauren chose a local park as she wanted to be able to go to the park during the summer without feeling afraid of dogs. She also chose the local supermarket as a setting. This was because of a previous incident in which she felt very nervous about going into the supermarket as there was a dog tied up outside the entrance. She stated she wanted to "cope" if she ever encountered this situation again.

Participant 3. Storm was a seven year-old male whose mother described him as timid around dogs from a young age. Approximately 18 months prior to the study he was bitten by a dog which resulted in his current marked fear. Storm stated that he got "butterflies in his stomach" when dogs came near. His parents have also attempted to help him with his fear by gradually introducing him to other dogs in the home setting, but to very little success.

Storm also chose to use the local park as the setting for his video as he stated he wanted to be able to play at the park during the summer without being afraid of dogs.

Materials

Video equipment. A Canon HD HF20 digital hand held camera was used in this study and a tripod was used when required for stability during filming. The video footage from all scenes was downloaded onto an Apple Macintosh computer and was edited using iMovie. The final edited short films were then burnt to a DVD disk.

Dog trainer and dogs. The same two dogs, a Border Collie and a Pointer Cross, were used for filming and for both Intervention Phases. Both dogs were supplied by Els Desart, owner and dog trainer from Trainimals. "Trainimals Owner and Dog Training Services help owners understand their dogs in order to create strong bonds based on trust and mutual respect. Trainimals works with shelters, veterinary clinics and other dog-related business" (Els Desart, personal communication).

Dog Behaviour and Safety Book. A book (Appendix D) was developed by the researcher and contained information about dog behaviour and dog safety. The Dog Behaviour and Safety book was written in a child friendly manner and included coloured pictures of dogs displaying different emotions. For example, pictures of dogs looking happy, a dog looking submissive and a dog looking angry are all included in the book. The book was largely based on the children's book "Good Dog! Kids Teach Kids about Dog Behaviour and Training" written by Evelyn Pang and Hilary Louie (Pang & Louie, 2008), which contained several relevant chapters regarding dog behaviour. This book by Pang and Louie (2008) contained information regarding dog behaviour, dog safety techniques, and ways in which to train such as teaching a dog how to sit and lie down.

Measures

Dog Scenario Questionnaire. The Dog Scenario Questionnaire (see Appendix E) was a nine-item questionnaire which assessed each participant's level of fear in the hypothetical scenarios. The concept of the Dog Scenario Questionnaire, which was developed for this study, was loosely based on, and originated from, the Dog Phobia Questionnaire written by Hong and Zinbarg (as cited in Vorstenbosch et al. 2011). The Dog Phobia Questionnaire is a self-report questionnaire containing 27 items that assess symptoms of dog phobia mainly in adults (Vorstenbosch et al. 2011). Scenarios from the Dog Scenario Questionnaire were gained from asking the participants about certain situations where they have previously encountered dogs and other situations where the researcher believed children may encounter dogs. Such scenarios in the Dog Scenario Questionnaire included "seeing a dog ten metres away", "seeing a dog down the street while in the car" and "seeing a dog past a friend's house while inside".

Dog Scenario Scale. A visual analog scale named the Dog Scenario Scale (Appendix F) ranged from one (not scared at all) to five (extremely scared) and was used by participants to answer how they would feel in the scenarios in the Dog Scenario Questionnaire. It was influenced by Hong and Zinbarg's Dog Phobia Questionnaire (as cited in Vorstenbosch et al., 2011) as this used a Likert scale ranging from one (strongly disagree) to seven (strongly agree).

Dog Behaviour and Safety Quiz. The Dog Behaviour and Safety Quiz (Appendix G) contained seven-questions regarding information from the Dog Behaviour and Safety book. Each question included three different answers to choose from. This quiz aimed to measure the participant's knowledge about dogs and their different behaviours.

Data recording sheet. A recording sheet was used by each participant to record how often they watched the video and read the book (Appendix H). This was done by placing a tick in the correct boxes on the sheet.

Procedure

The following procedures were used:

Screening and preparation meetings. The parents of the participants contacted the researcher via phone or email. The researcher then gave the parents a brief overview of the study and arranged an individual meeting at the Dovedale/Pukemanu Centre at the Health Sciences Centre, University of Canterbury. This initial meeting was attended by the researcher, the second supervisor, the child, their parents and for Lauren and Storm; their siblings.

First meeting. At the first meeting, the reasons why the parents and child decided to contact the researcher were discussed along with different situations in which the child had been afraid of dogs, what they did in that situation, how they felt about it,

and what they would like to get out of the study. A developmental history was also obtained to screen for other problems which may have precluded the intervention. The child and their families were given the opportunity to discuss between themselves whether or not to take part in the study. This first meeting was also used to build rapport and trust between the participant and their families and the researcher. The content of this first meeting is consistent with the required behavioural interview information as stated by King et al. (1997b). Contact numbers and emails were exchanged so they could contact the researcher after several days to accept or decline to take part in the study.

Second meeting. The second meeting time which was negotiated with both the researcher and the family at the end of the first meeting was based again at the Dovedale/Pukemanu Centre. Here, informed consent forms were collected from each child and their parent. Lauren's written consent form was slightly modified as per request from her mother to be written in a more child friendly manner. The researcher and the child alongside their parents also discussed what the child and their parents wanted to see on the video. For example, if the child wanted to be brave around dogs at the local park then discussion occurred on what "being brave" might look like. This was then operationalised into an appropriate goal such as using breathing to remain calm, and the setting for the video was the park.

Implementation of the intervention

The invention in this study consisted of video self-modelling where each participant was videoed using coping behaviours such as deep breathing separately at their chosen setting. On another day filming occurred with the dogs in the same environment, this time without the child. Editing of the videos was then carried out to ensure the final video looked as though the participant had been in the environment at

the same time as the dog. The final edited video was then given to each participant to watch for a period of two weeks. After the two week period, each participant was returned to their chosen setting.

Video filming. The making of the video and video content were negotiated between the researcher, the parents and the children as to the day, time and place for filming of each video. At the chosen setting and before filming began, each participant was given the Dog Scenario Questionnaire. Once participants had responded to the Questionnaire, each was asked to play at the beach/park or do activities they would typically do in that environment. For example, the two participants who were filmed at the park played on the swings and see-saw. The participant at the beach lay on a towel and attempted to look relaxed. The participants were then asked to perform a number of coping behaviours which were filmed by the researcher. These included relaxation techniques such as deep breathing and self talk. Statements used for self-talk included "I can see the dog is on a leash so I know it can't come up to me", "just keep calm" and "I can see the dog is wagging its tail so I know it's happy".

On a separate day, scenes that required dogs in the footage were filmed using dogs supplied by the dog trainer and Trainimals. The dog trainer was requested to walk along the beach/park with the dogs on the lead at different distances, and then off the lead at different distances. When off the lead, the dog trainer played with the dogs in a natural way. For example, she threw a dog toy for the dog to fetch. Once filming was completed, the video shots from both the child's and the dogs' filming were edited using iMovie to suggest they were filmed together. It is important to reiterate that both the children and the dogs used in the three videos were not in the same

environment at the same time during filming, however, the editing of the footage suggests that they indeed were.

Participant videos.

Michaela. Michaela's video consisted of three different scenarios at the beach involving a dog. The first showed her sitting on the beach with a dog walking past her on the lead with its owner. Michaela then displayed the deep breathing technique to show that she is calm. The second scenario showed Michaela sitting on the beach with a dog off the lead in the distance. The dog then gradually walked up to her and she sat up straight, shoulders stiff and looked into the distance keeping very still. Over this shot she said "just keep calm, just keep calm". Michaela suggested these words as she stated that she was more likely to say this self talk than what the researcher had suggested to her. The dog then ran back to its owner and both continued walking down the beach. The video then shot back to Michaela showing her using the relaxation technique of taking a deep breath in and exhaling. The final scenario on the video involved Michaela sitting on the beach with a dog off the lead walking along the beach with its owner. Again, Michaela displayed deep breathing techniques as the dog walked past. The final shot of the video was of Michaela smiling, looking pleased with herself and staying relaxed.

Lauren. Lauren's video consisted of three separate scenarios; two based at the local park and the third scenario at the local supermarket. In the first video, Lauren is seen playing at the playground with her sister when she sees a dog off the lead with its owner. Lauren then took a big deep breath in and exhaled while saying to herself "I can see the dog is wagging its tail so I know it's happy". Lauren then walked over to the swing acting calm and confident as the dog walked away. In the second scenario, Lauren's mother called both her and her sister to her and Lauren saw a dog walking

with its owner on the lead. As she did in the first scene, Lauren took a big deep breath in and exhaled while saying “Mum and my sister aren’t scared of the dog so I don’t need to be either”. Lauren then walked over to her mother in a confident manner. The third and final scenario showed Lauren together with her mother and sister walking toward the entrance of the supermarket where a dog could be seen tied up outside. Lauren noticed the dog and took a breath in and exhaled while saying “I can see the dog is tied up so it can’t come up to me”. She then appeared to walk past the dog, with her mother and sister, appearing pleased with herself.

Storm. Storm’s video contained three separate scenarios all based at the local park. During the first scene, Storm walked across the playground when he saw a dog on the lead with its owner. He took in a deep breath and exhaled while saying to himself “there’s a dog on the leash so I’ll be safe”. He then confidently walked over to the park bench. In the second scene, Storm again walked across the playground and headed toward the seesaw. He stopped and noticed a dog on a lead with its owner walking through the park. He took a deep breath in and exhaled while again saying to himself “there’s a dog on the leash so I’ll be safe”. He then walked over to the seesaw in a self-assured manner. The third and final scene of Storm’s video showed him walking across the park heading toward the swings. He noticed a dog off the lead in the park playing with its owner. Like in the previous scenes, and taking in a deep breath and exhaling Storm said “The dog is happy because it’s wagging its tail. I’m being so brave right now”. He then walked over to the swing with a big smile upon his face.

Phases of data collection.

Baseline. Baseline scores on the Dog Scenario Questionnaire were collected prior to filming for each participant at their chosen locations (Michaela at the beach, Lauren and Storm at their local park and additionally for Lauren, at her local supermarket).

Intervention phase. No data was collected during the implementation of the intervention. Each participant's completed video was given to them to watch for a period of two weeks with a minimum viewing of six times. There was no upper limit on how many times each child could watch the video. The Dog Behaviour and Safety Book was also given to each child to read for the two week period with a minimum reading of six times. The book was to be read alongside watching the video. A data recording sheet was supplied to the children for them to record how often they watched their video and read the book during the two weeks period.

After the two week period was completed, each participant was requested to stop watching their video and reading their book. Following this, parents were requested to contact the researcher to negotiate a day and time to go back to the participants' original settings, along with the dogs and their trainer.

Post Intervention Phase 1. At their chosen setting, each participant was again administered the Dog Scenario Questionnaire. Once this was completed, the researcher introduced the participant, their parents and other family members to the dog trainer and her dogs. With the participant and their parents' permission, and using one dog at a time, the dog trainer gradually exposed the participant to the dog. For example, the dog trainer would walk along the beach or park at a distance of approximately 15 metres and if the participant looked calm and relaxed, then the dog trainer moved to 10 metres. If the participant was happy for them to do so, the dog trainer moved to 5 metres and so forth. Each participant was informed by the

researcher that if they were feeling fearful or scared, they were to tell the researcher or their parents and the trainer would take the dog back to the previous "safe" distance. Observations were recorded of the participants' body language and behaviour around the dogs. If any signs of stress were noticed then the dogs would be moved away and the phase terminated. During this phase, the dogs were able to demonstrate the "play bow" position as described in the Dog Behaviour and Safety Book. Each participant was asked the name of this position and its two meanings.

Post Intervention Phase 2. After approximately 30 minutes of being around the dog and the dog trainer, each participant was again asked to complete the Dog Scenario Questionnaire with regard to how they now felt about dogs after seeing and being close to dogs in real life. Once this task was completed the posttest was concluded.

The book quiz was emailed out after the Post Intervention Phases so each participant could complete them. Each participant was asked to refrain from looking at the book to check for the correct answers. The answers were then emailed back to the researcher after approximately one week and were marked.

CHAPTER THREE

Results

All three participants completed the study and answered all the questions for the dog questionnaire. They all reported their fear levels on the Dog Scenario Scale for Baseline, Post Intervention Phase 1, and Post Intervention Phase 2. These are shown in Figures 1 to 3 below.

Michaela

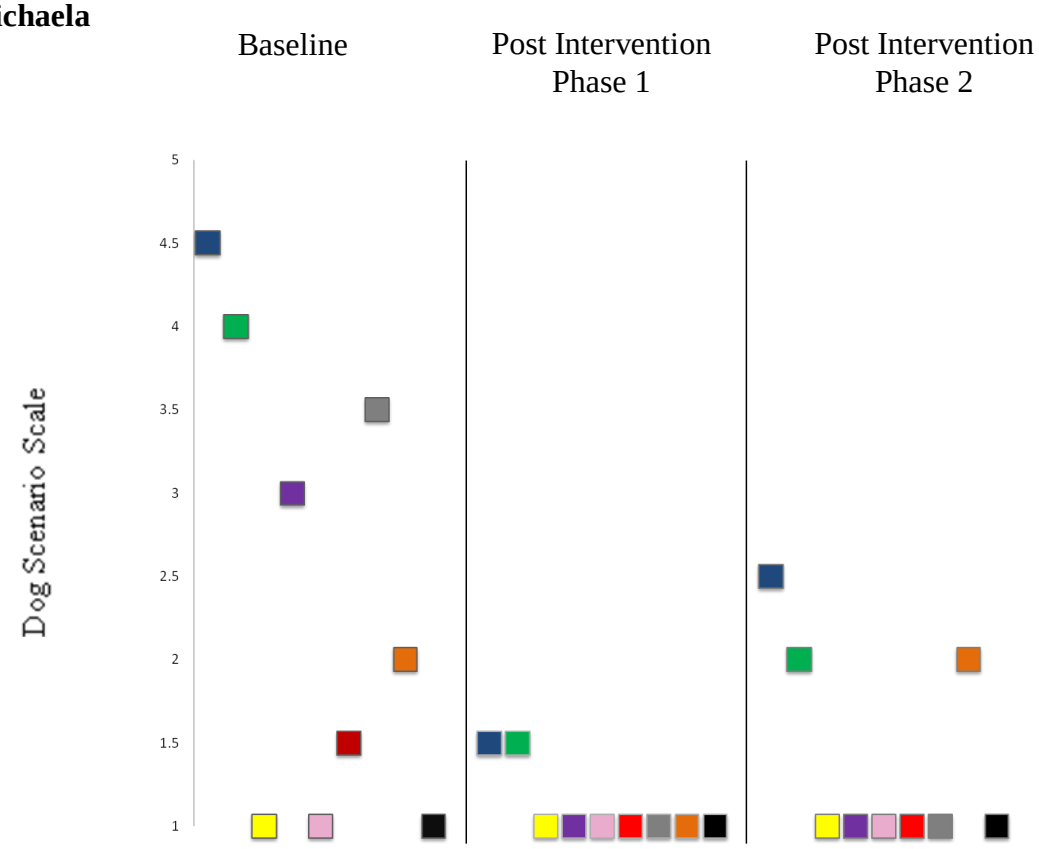

Figure 1. Michaela's self-reported responses to the Dog Scenario Questionnaire.
Blue=dog 10 metres away; **Green**=dog on other side of road; **Yellow**=dog on street while in car; **Purple**= walking past a house, see dog behind a locked gate; **Pink**=see dog outside of house when inside; **Red**=see dog outside at a friend's house when inside; **Grey**=walking to dairy, see dog in park off leash with owner; **Orange**=walk through park, see dog on lead; **Black**=see a guide dog.

Baseline. Figure 1 shows all results for Michaela. During baseline Michaela reported moderate to high fear levels in response to four of the nine questions on the Dog Scenario Scale. These included *seeing a dog 10 metres away, seeing a dog on the*

other side of the road, walking past a house and seeing dog behind a locked gate, and *walking to the dairy and seeing a dog in the park off a lead with its owner*. No fear was reported by Michaela for *seeing a dog on the street while in the car, seeing a dog outside of the house while inside*, and *seeing a guide dog*. At the beach during baseline Michaela displayed overt signs of fear and anxiety when she saw a dog walking with its owner off the lead; she tensed her body up and quickly walked away from the sand-dunes.

Michaela watched her video and read her book a total of six times between baseline and Post Intervention Phase 1. For Michaela, there was a moderate delay between Baseline and Post Intervention Phases 1 and 2 recordings of approximately four weeks. This delay was due to the busy schedules of the researcher, the dog trainer and the participant. Because of this delay, Michaela watched her video once again before she returned to the beach for Post Intervention Phase 1 and Post Intervention Phase 2. This was done as a precautionary measure to "refresh" her memory about the video content.

Post Intervention Phase 1. At the first Post Intervention Phase, there was a marked decline from 4.5 at baseline to 1.5 in Michaela's fear levels for *seeing a dog 10 metres away*, from 4.0 to 1.5 for *seeing a dog on other side of the road*, and from 3.5 to 1.0 (no fear) for *walking to a dairy and seeing a dog in the park off the lead with the owner*. During this phase Michaela was able to walk down to the beach along with her mother, the researcher, the dog trainer and the two dogs without displaying obvious signs of fear. She reported no fear for the remaining seven of the nine categories.

Post Intervention Phase 2. At the second post intervention phase there was a increase in Michaela's reported fear level from 1.5 to 2.5 for *seeing a dog 10 metres*

away, from 1.5 to 2.0 for *seeing a dog on other side of the road*, and also from 1.0 to 2.0 for *walking through the park and seeing a dog on a lead* on the Dog Scenario Scale. Michaela reported no fear for the six remaining six categories.

Michaela appeared very calm and relaxed during this phase. When asked if she would like one dog to come close to her, she allowed the dog to sit directly in front of her while on the beach without displaying any obvious signs of fear. Michaela answered correctly when asked what the meaning of "play bow" was. She also received 100% on her Dog Behaviour and Safety Quiz.

Lauren

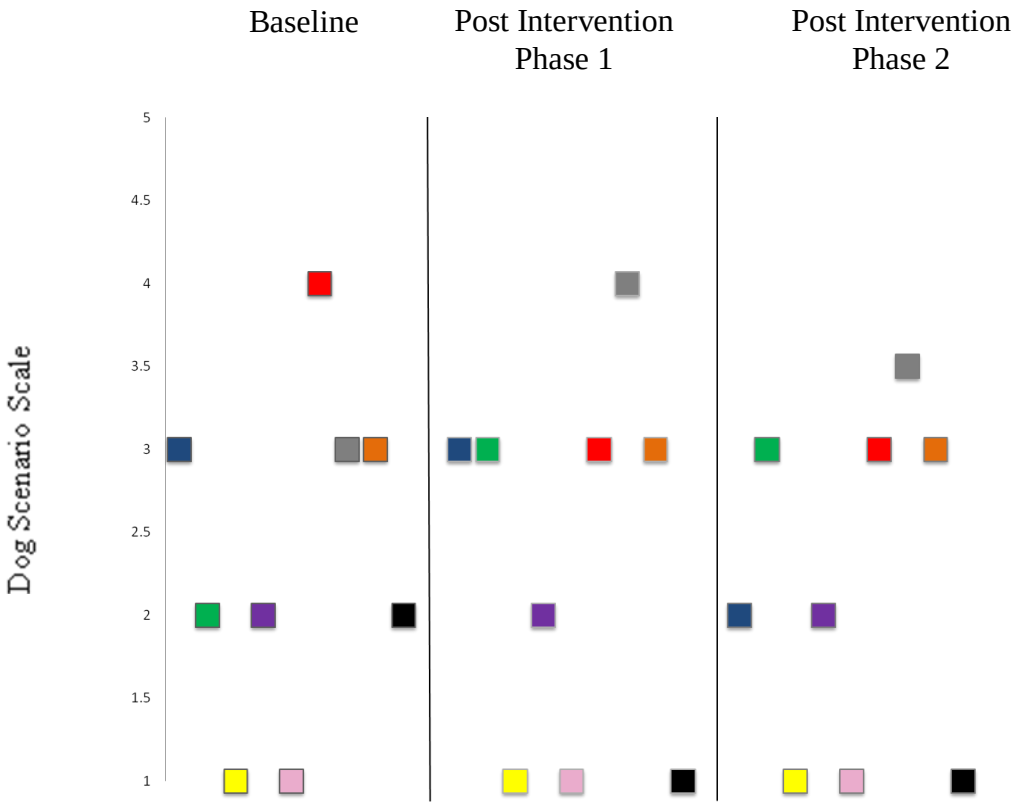

Figure 2. Lauren's self-reported responses to the Dog Scenario Questionnaire.
Blue=dog 10 metres away; **Green**=dog on other side of road; **Yellow**=dog on street while in car; **Purple**= walking past a house, see dog behind a locked gate; **Pink**=see dog outside of house when inside; **Red**=see dog outside at a friend's house when inside; **Grey**=walking to dairy, see dog in park off leash with owner; **Orange**=walk through park, see dog on lead; **Black**=see a guide dog.

Baseline. All results for Lauren are shown in Figure 2. During baseline Lauren reported moderate to high fear levels in response to four of the nine questions on the

Dog Scenario Scale. These ranged from 3.0 for *seeing a dog 10 metres away*, *walking to the dairy and seeing a dog in the park off the lead with its owner*, and *walking through the park and seeing a dog on the lead* to 4.0 for *seeing a dog outside a friend's house when inside*. Lauren told the researcher that her reported high level of fear for *seeing a dog outside a friend's house while inside* was because she was afraid her friend would want her to go outside where the dog would be. Lower fear levels were reported as 2.0 on the Dog Scenario Scale for *seeing a dog on the other side of the road*, *walking past a house and seeing a dog behind a locked gate*, and *seeing a guide dog*. No fear was reported by Lauren for *seeing a dog on the street while in the car* and *seeing a dog outside of the house while inside*. At the park during baseline, Lauren displayed little signs of fear and anxiety and enjoyed taking part in the filming for her video. Lauren watched her video and read her book a total of seven times during the time between baseline and Post Intervention Phase 1

Post Intervention Phase 1. At the first post intervention phase, Lauren reported a slight decline in her fear level for *seeing a dog outside a friend's house while inside* from 4.0 at baseline to 3.0 during this phase. However, there was a slight increase in her fear levels for *walking to the dairy and seeing a dog off the lead with its owner*, with a reported fear level of 3.0 at baseline to 4.0 during this phase. *Seeing a dog on the other side of the road* also increased from 2.0 at baseline to 3.0 during this phase. No fear was reported for *seeing a dog on the street while in the car*, *seeing a dog outside of the house while inside*, and *seeing a guide dog* during this phase.

At the park, Lauren displayed some sign of anxiety with a worried facial expression. She occasionally turned her head and appeared to scan the area for dogs. However, Lauren began smiling and giggling when the dogs began doing tricks off

the lead. She reported she felt calmer when the dogs were occupied and busy when off their leads.

Post Intervention Phase 2. During the second Post Intervention Phase there was a slight decrease in Lauren's fear levels from 3.0 at Post Intervention Phase 1 to 2.0 for *seeing a dog 10 metres away*, and from 4.0 at Post Intervention Phase 1 to 3.5 during this Phase for *walking to the dairy and seeing a dog in the park off the lead with its owner*. Over all three Phases, Lauren consistently reported no fear for *seeing a dog down the street while in the car* and *seeing a dog outside the house while inside*.

Even though Lauren appeared calm and relaxed over this phase, her reported fear levels were variable. At the park, Lauren was able to sit down with the dog along with the dog trainer, the researcher and her family members. She did not appear to scan the area as much as she did during the Post Intervention Phase 1 and she seemed calmer as her shoulders were not tense and she was smiling more. Lauren answered correctly when asked what the meaning of "play bow" was. Lauren received 100% on her Dog Behaviour and Safety Quiz.

Storm

Baseline. Figure 3 shows the results for Storm. During baseline Storm reported on the Dog Scenario Scale moderate to high fear levels in response to two of the nine questions. He reported feeling quite afraid for *seeing a dog on the street while in the car* with a score of 3.0 and *walking through the park and seeing a dog on a lead*, with a high fear score of 5.0.

Storm watched his video a total of 14 times and read his book a total of 11 times between Baseline and Post Intervention Phase 1. Over all Phases, Storm reported no fear for *seeing a dog outside of the house while inside*, *seeing a dog outside at a*

friend's house while inside, *walking to the diary and seeing a dog in the park off the lead with its owner*, and *seeing a guide dog*.

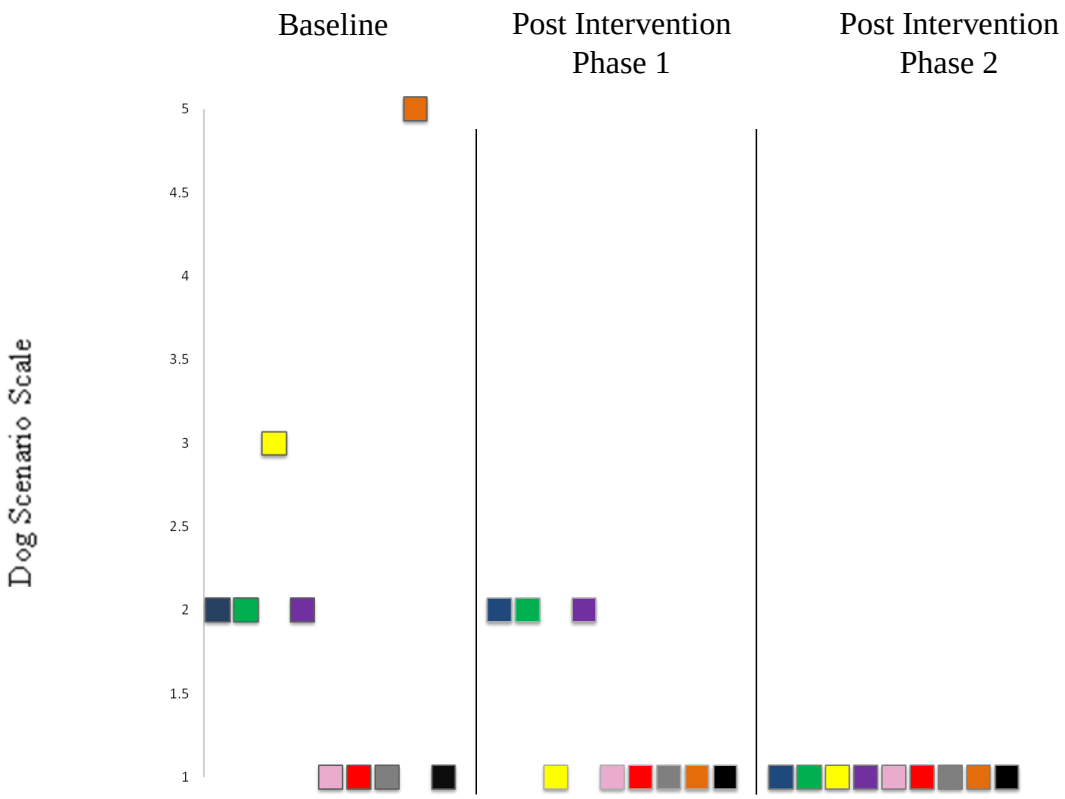

Figure 3. Storm's self-reported responses to the Dog Scenario Questionnaire.
Blue=dog 10 metres away; **Green**=dog on other side of road; **Yellow**=dog on street while in car; **Purple**= walking past a house, see dog behind a locked gate; **Pink**=see dog outside of house when inside; **Red**=see dog outside at a friend's house when inside; **Grey**=walking to dairy, see dog in park off leash with owner; **Orange**=walk through park, see dog on lead; **Black**=see a guide dog.

Post Intervention Phase 1. At the first Post Intervention Phase, there was a marked decline in Storm's fear levels of *seeing a dog on the street while in the car* from 3.0 at Baseline to 1.0 at this Phase, and *walking through the park and seeing a dog on a lead*, from 5.0 at Baseline to 1.0 during this Phase. There was no change in Storm's fear level for *seeing a dog 10 metres away*, *seeing a dog on the other side of the road*, and *walking past a house with a dog behind a locked gate*, all of which remained at a 2.0 during this phase.

At the park Storm said he initially felt nervous but very proud of himself for being able to approach dogs. While talking to the researcher, Storm noticed a dog walking near the park and pointed it out to the researcher while saying "doggy!" in an excited voice. Storm asked the researcher and the dog trainer if he was able to pat one of the dogs. He displayed calm and confident behaviour patting the dog while the dog was lying down next to the dog trainer. He also talked with the dog trainer and often asked her questions regarding the dog's coat, diet and age. Storm was able to feed the dog with treats out from his hand approximately six times. Although he seemed cautious at the beginning, he gained confidence and was giggling and smiling. Storm then took the dog on a short walk assisted by the dog trainer and walked in a confident manner. He also spent 5 to 10 minutes playing 'throw' with the dog and one of the dog's toys. At this time, Storm seemed nervous as he stood back from the dog for a few seconds, but would then re-approach the dog while smiling and giggling.

Storm's confidence with the dogs was evident in his decreased levels of fear as recorded, as he reported no fear for six of the situations with the exception of *seeing a dog 10 metres away*, *seeing a dog on the other side of the road*, and *walking past a house and seeing a dog behind a locked gate*, which were all recorded at 2.0.

Post Intervention Phase 2. At the second Post Intervention Phase, Storm reported no fear for all nine scenarios. Storm appeared very relaxed and excited during this phase. He stated to the researcher this was the happiest time he had experienced since being bitten by a dog prior to the study commencing. Storm answered correctly when asked what the meaning of "play bow" was. He received 100% on the Dog Behaviour and Safety Quiz.

CHAPTER FOUR

Discussion

Aim and overview of results

The aim of this study was to measure the effects of VSM on three children with dog fears aged between 7 and 13 years old. This study also aimed to teach these three children appropriate dog safety techniques and dog body language identification skills which they could use in everyday life. Overall, Michaela and Storm demonstrated a decrease in their levels of fear over the three phases of the study on the Dog Scenario Scale. Lauren demonstrated more variability in reporting her levels of fear over the three phases. At Baseline all three participants displayed a range of fear levels toward dogs in certain situations. *Seeing a guide dog* for all participants was reported as low levels during all Phases. At Post Intervention Phase 1 and Phase 2, Michaela and Storm reported some decrease in their fear levels. Lauren's reported fear levels were more variable over these two phases. Only Storm reported no fear over all nine categories recorded at Post Intervention Phase 2. When asked by the researcher at the conclusion of Post Intervention Phase 2 if they liked the video or the book the best, all three participants replied with "the book". Strengths and limitations of this study are discussed later in this chapter.

Michaela

Approximately one week after the two week intervention of watching the self-modelling video and reading the book, Michaela, when out walking with her brother, experienced an encounter whereby a dog hastily ran past them. As the dog was approaching her and her brother, Michaela stood to the side of the walkway and waited until the dog had run past her. Although Michaela did not feel overly

frightened of the dog she stated she was wary of the dog as she was unaware of what was happening. Since this incident, Michaela had seen other dogs but had reported feeling no fear toward them.

After the viewing the video and after the episode with the dog, Michaela stated that she felt more confident walking to school through the park even when there were other dogs around. Prior to the study Michaela was always wary of dogs in the park. She stated throughout the study that she wanted to be able to walk through the park without feeling afraid of dogs and believed now she had achieved this. She stated she was no longer afraid if dogs ran up to her or jumped up on her.

Lauren

Lauren was giggling and smiling at the Post Intervention Phases while one of the dogs was doing tricks. She commented to the researcher that she felt calmer when the dog was busy and occupied when they were off the lead. This may have led to her believing that the dogs wouldn't come up to her as they were occupied doing something else. When reviewing Figure 2 one could assume the intervention did not have much effect on Lauren's behaviour and her fear levels when she was around dogs. However, behavioural observations taken by the researcher during both Post Intervention Phases suggested that Lauren appeared composed and relaxed and enjoyed the experience. She was able to sit with the dogs along with her sister and father while the dog trainer informed her about the dogs' coat, diet and age.

Storm

Storm along with his family appeared very excited and happy during all phases of the intervention. At Post Intervention Phase 1, Storm's mother had notified the researcher in regards to a situation where Storm and his mother were walking down the street when they saw a dog coming toward them. Storm had remained calm and

did not resort to hiding behind his mother; this was something he would typically do prior to the study, although Storm's mother did state that Storm seemed preoccupied at the time. All of Storm's family assisted and had a strong presence throughout the study and their overall attitude appeared positive and optimistic. Storm's parents and brother attended all interviews and also to the video making and post intervention sessions. This may help explain why Storm's reported fear levels reduced to very low levels by the end of the study.

Gender and age differences.

Although there were gender differences in terms of results in this study, reasons for these gender differences are unlikely to be like what Muris and Rijkee (2011) suggested, in that, girls appear more willing to admit and report their fears rather than boys.

One age difference that was noticed by the researcher was Michaela's approach and enthusiasm during the three phases differed to that of Lauren and Storm. Only Michaela's parents knew of her involvement in the study, and although Michaela did not say as much, she may have been wary of others knowing of her involvement. She may have been self-conscious of her dog fear and did not want her peers to know about them nor the study she was involved in. Likewise, to be involved in a study may be perceived as "uncool" by her peers. If either of these statements were true, this could suggest Michaela perceived her fear to be of significant persistence that she chose to address and treat it.

In contrast, Lauren and Storm, although younger, were visibly very keen to take part and involved multiple family members throughout the study phases. Storm was the youngest participant at seven years of age and readily encouraged this parents and sibling to "help" with the reading of the book and watching of the self-modelling

video. Lauren's family members also willingly attended all meetings, the making of the video and both Post Intervention Phases. No comments were made by Lauren and her family in regards to who knew of her involvement in the study.

Strengths of the study

Setting. A strength of the study was allowing the participants and their parents to decide the setting and scenarios of their videos. This was decided as it was believed the setting of the participant's video needed to be of significance to them rather than to the researcher. Each self-modelling video setting was contextual to each participant and was a setting where the participant wanted to go to and enjoy, but were unable, due to their fear of dogs. Allowing the participants and their families decide on the video settings helped build rapport and trust between both them and the researcher, a crucial point that King et al. (1997b) state when conducting interviews with individuals regarding their fears.

Martin Hood (2004) stated that the skills, equipment, and time needed in order to create the self-modelling videos may be limited in the sense that clinicians would need to acquire these for making these videos. This did not bear any issues for this study as the time it took to plan, shoot and edit the videos was brief and materials were easily obtained. This was most likely due to the setting that the participants' selected as all scenarios took place outdoors rather than requiring a blue screen for filming, as in Hoods study. In contrast to Hood's study (2004), the settings of the videos were very natural and ordinary to the participants. If anything, the settings used for the participants' self-modelling videos in this study are a key strength due to all participants and their parents having input to where their videos would be filmed.

Dog Behaviour and Safety Book. Bandura and Menlove (1968) advised their participants subsequent to the study that while most dogs can be friendly, they should

always ask the owner of the dog if they are able to pat the dog first. They state that this instruction was given as a preventative measure to individuals when approaching strange dogs which may display unfriendly behaviours. This precautionary statement was very similar to the information in the book and the researcher's rationale for using the book. The book provided information to the participants that was not accessible from the video but was seen by the researcher as being highly important and valid to the study. This information was given to prevent the participants misinterpreting dogs' behaviours as being either dangerous or harmless. All participants received 100% on the Dog Behaviour and Safety Quiz and were able to correctly identify the play bow position and the meaning behind this position. This helped demonstrate the strength and effectiveness of the book. A quiz at a follow-up phase subsequent to the study would have been useful to again measure the participants' knowledge of the book information. Asking the participants to demonstrate the necessary skills of dog safety would have also helped demonstrate the strength of the book.

Length of intervention period. The number of times and the time period which the participants were to watch their videos was consistent with that of previous studies such as by Creer and Miklich (1970), Dowrick, Kim-Rupnow and Power (2006) and Hood (2004). All three participants watched their videos and read their books for two weeks, while only Michaela watched her video an extra time before post intervention, as previously explained.

Storm's mother reported she noticed a change in Storm almost straight after the two week period. Although the participants in this study did not watch their self-modelling videos every day out of the two week intervention period, they did watch it for the recommend minimum time period of six days and displayed positive results.

Storm watched his video twice on 3 of the 14 days. Although it was not suggested by the researcher for the participants to watch their videos more than once on a given day, it was also not discouraged. Given Storm's very positive results, Storm watching his video more than once on 3 of the 14 days adds to the videos strength.

Limitations

This study presented various limitations. One of the major limitations of this study pertains to the book and the video as to which item was most responsible for the participants' results and their outcomes. It is not possible to suggest that the self-modelling videos or the book alone caused the change in the three participants' dog fears. The data suggests it may be a combination of both the video and the book together that had the greatest effect on the decrease in the participants' dog fears. This is evident in Michaela and Storm's reports of no fear at Post Intervention Phase 1, and for example, in all three participants' understanding surrounding the position of "play bow" and when asked what this position meant, all participants answered correctly.

External variables may have influenced the results of this study. Exposure to dogs outside of the study could have influenced the participants' outcomes. For example, Michaela's exposure to a dog outside the study's control may have influenced her reported fear levels at the beach as she had extra exposure to dogs in natural settings. This could be due to habituation and Michaela becoming used to seeing dogs. However, she still reported small levels of fear on three scenarios of the Dog Scenario Questionnaire. Storm's exposure to a dog with his mother outside the study's control also could have influenced his reported fear levels at the park.

Ethical considerations. Measuring each participant's fear levels was limited due to ethical considerations as it was deemed highly unethical to expose each participant to a fearful situation containing a dog for a baseline measurement. This was overcome

by providing the three participants with the Dog Scenario Questionnaire and the Dog Scenario Scale which measured their reported fear levels to hypothetical scenarios where they may encounter a dog or have encountered a dog in the past. The hypothetical scenarios in the Dog Scenario Questionnaire were partly based on the three participants past experiences where they had been involved and frightened in certain situations. These scenarios gave some strength and validity to the Questionnaire.

Although it was not measured if the participants met criteria for the DSM-IV diagnosis of a specific phobia, this did not appear to matter. All participants along with their parents had stated to the researcher they wanted to address their dog fear and all willingly agreed to take part in the study. The participants and their families believed that the dog fear was significant enough to warrant change in the participants' behaviour and their fears and actions around dogs.

No follow-up period. In hindsight, more information could have been gathered from a follow-up observation with the three participants and their families. This would have helped gain a better understanding as to how long the effects of the self-modelling video had been maintained. The Dog Behaviour and Safety Book should also have been re-administered to the participants at an additional follow-up time to ensure this information was retained.

Measuring behaviour. The time and the structure of the overall study were both factors of importance in this study. More time could have been spent on measuring the participant's dog fears, although ethical considerations need to be taken into account. Nevertheless, the researcher felt that using a behavioural avoidance test for young children was unethical at the time, hence why hypothetical scenarios in the Dog Scenario Questionnaire along with the Dog Scenario Scale were used to measure

the children's reported levels of fear in certain situations. The Dog Scenario Questionnaire was used to avoid exposing each participant to their fear before the self-modelling videos were created.

Variability of the dogs. The children responded to the dogs in different ways. Michaela told the researcher she liked the look of the Border Collie but not so much of the Pointer Cross. When queried she couldn't seem to communicate as to why this was, except to say she didn't like the look of the Pointer Cross. A way to get around this problem is that more dogs could have been used to induce generalisation of dogs in the three participants. Further research into situations such as Michaela's could look into ways of overcoming a fear of dogs if the look of the dog is what the individual is afraid of, regardless of their knowledge of dog safety or dog body language identification skills or lack thereof.

Video length. Lauren and Storm had similar video length times of 1.39 seconds and 1.37 seconds respectively. Michaela's video length was 2.18 seconds. Lauren and Storm's video lengths were slightly under what has been suggested by Dowrick (1999) and Collier-Meek et al. (2012) of between two to five minutes long, but were much shorter than the first VSM made by Creer and Miklich (1970) which was five minutes long. The video lengths used in this study were similar to other videos used in studies by Buggey, (2005) and Dowrick, Kim-Rupnow and Power (2006).

The video length in this study did not appear to have much effect, if any, on the three participant's results. Clare et al. (2000) also created five minute long videos for participants in their study and this produced positive results. In stating this, Lauren's short video length could have played a role in her variable reported dog fear levels. However, in a study by Dowrick, Kim-Rupnow, and Power (2006) the videos made for the participants were less than 2 minutes long and also included attractive still

frames. The participants were also given a two week period in which they were able to watch their video. The difference with this study and the current one is that participants were given the choice to continue or discontinue viewing their videos after the two week period. In this study, participants were not offered this choice, with the exception of Michaela who was offered to re-watch her self-modelling video before Post Intervention Phase 1.

Considerations for future research

There are a number of ways which this study could be developed and expanded. For future studies, two groups could exist by where one group of participants watch a self-modelling video only and the other group watch a self-modelling video and read a book together such as in this study. Another group could be added as a control group. This design would help show more accurately as to which variable had a greater effect on the participants' fear of dogs. Another focus could be on gender and the differences between males' and females' reported levels of fear at both baseline and post intervention. This finding could then be linked back to Muris and Rijkee (2011) and their statement regarding gender differences with fear.

The idea of using VSM with children and dogs could be expanded by using VSM to help show young children appropriate ways to approach dogs and how to tell which dog behaviours indicate danger or safety. These children would not necessarily need to be afraid of dogs but they would lack the crucial skills for approaching dogs safely and confidently. As there are a number of reported dog attacks on young children in New Zealand, these videos could play a vital role in helping decreasing these attacks. The self-modelling videos could also be used as peer modelling videos and shown to the wider population as part of a campaign to increase awareness in children surrounding dogs and their behaviour.

Conclusion

The aims of this study were to measure the effects of VSM on three children with dog fears aged between 7 and 13 years old and to teach the participants appropriate dog safety techniques and dog body language identification skills. This study demonstrated that VSM can have positive effects on children with dog fears and was successful in decreasing reported fear levels in two of the three participants. The results also showed that the book was successful in teaching the participants valuable information regarding dog safety and dog body language identification skills. An important issue with this study was whether the video or the book was most responsible for the participants' decrease in their dog fears and an increase in their knowledge of dog behaviour. Possible suggestions included that a combination of both the video and the book was responsible for the decrease of the participants' fears. Future research could expand this finding further by including two groups with each including the video or the book alone with the results being compared against each other. This would give a clearer indication as to what is more effective.

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APPENDIX A

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

HUMAN ETHICS COMMITTEE

Secretary
Email:

Ref: HEC 2012/68

16 July 2012

Megan Swney
Health Sciences Centre
UNIVERSITY OF CANTERBURY

Dear Megan,

The Human Ethics Committee advises that your research proposal "The effects of video self-modelling on children with dog fears" has been considered and approved.

Please note that this approval is subject to the incorporation of the amendments you have provided in your email of 13th July 2012. Further, the use of letterhead is not required for the community newspapers.

Best wishes for your project.

Yours sincerely

Michael Grimshaw
Chair
University of Canterbury Human Ethics Committee

APPENDIX B
College of Education

Megan Swney
University of Canterbury
Dovedale Avenue
Ph.
Email:

Date:

The Effects of Video Self-Modelling on Four Children with Dog Fears

Information Sheet for Older Children

Dear

I am doing my Masters thesis at the University of Canterbury. I am studying how useful video self-modelling will be for children who have a fear of dogs.

I am inviting you to take part in my study. I would like to meet with you and your family and ask you a few questions about what you think about dogs and how you feel about them. After this, I will have a chat with you about what we can do to help you not be scared of dogs anymore. I will also ask you about times where you have come across a dog and this has scared you. This might take up to one hour.

Later on, I will help you come up with some different ways which can help you not be scared of dogs. A short video will be made starring you that you get to watch at home, and a book about dogs will be given to you to read at home. You will help me make a video of you pretending that you are braver than you really are. This might take up to one hour. If a real dog needs to be used in the video, a dog trainer called Els Desart, a dog trainer from Trainimals in Christchurch, can supply the dog, but you and the dog will be filmed separately so you won't have to interact with it.

Afterwards, we will be outside where there are real dogs-but don't worry, these dogs are very friendly and safe, and if you get too scared I can take the dogs away from you. You only need to go as close to the dogs as you (and your parents) want to. This might take about two hours. At the end, I will ask you to complete a small quiz about the dog book's information.

During the project you will be given a code name so no one will know your real name. I will only tell my two university teachers, Mrs Gaye Tyler-Merrick and Associate Professor Karyn France, and the dog trainer Els what your real name is. I might tell other professionals and interested people about the project but no-one will know it is you who took part. If you don't want to continue being in the study, all you

have to do is tell me (Megan) or your parents who can then tell me and it will be OK with everyone.

Anything which has your name written on it will be locked up in my office at the College of Education and any documents which have your name on them will be thrown away after the study is finished. A report of the study will be available to you and your parents once the study is finished. When the study is written up and finished, it will be made public so that anyone can read it on the University of Canterbury library database, but your name will not be included in the final copy. This study has also been reviewed and approved by the University of Canterbury Human Ethics Committee.

If you have any questions about my study, please contact either myself or my senior supervisor, Gaye Tyler-Merrick. If you are worried at all about the project, please contact The Chair, University of Canterbury Human Ethics Committee.

Thank you ☺

Megan Swney.

The Chair
University of Canterbury Human Ethics Committee

Gaye Tyler-Merrick
Senior Supervisor

Els Desart
Dog Trainer
info@trainimals.com

APPENDIX B

College of Education

Megan Swney
University of Canterbury
Dovedale Avenue
Ph.
Email:

Date:

The Effects of Video Self-Modelling on Four Children with Dog Fears

Information Sheet for Young Children

(For the caregivers to read to the child)

Megan Swney is doing a project at the university. She is going to work with you and us to help you not be scared of dogs anymore.

Megan will ask you a few questions about what you think about dogs and how you feel about them. She will also chat to us to see what we think will help you to not be scared of dogs anymore. During this time, everything will just be the same, nothing will change. After Megan has finished doing that, she will chat with you about what we can do to help you. She will ask you about different times where there has been a dog and it has scared you. This might take up to one hour.

Megan will then help you come up with some different ways which can help you to not be afraid of dogs. She will also make a book about what dogs do, and a video where you get to be the star! You will get to watch this video and read the book at home for two weeks. A real dog might be used in the video and supplied by a dog trainer called Els Desart, a dog trainer from Trainimals in Christchurch, but you and the dog will be filmed separately so you won't be near it.

Later on, Megan will take you outside where there will be a real dog, but don't worry, the dogs will be very friendly and kind. You will only be near dogs which are trained to be calm with children or dogs that are behind a fence or on a leash. She will be taking some notes but if you get too scared, Megan can take the dog away from you. You only need to go as close to the dog as you and your parents want you to. This

might take up to two hours. She will also ask you to answer five questions about the book which you have read.

During the project you will be given a code name so no one knows your real name. I will only tell my two university teachers, Mrs Gaye Tyler-Merrick and Associate Professor Karyn France, and the dog trainer Els what your real name is. Megan might tell other professionals and interested people about the project but no-one will know it is you who took part. If you don't want to continue being in the study, all you have to do is tell me who can then tell Megan. If you have any questions, you can talk to Megan about it, or call her teacher Mrs Tyler-Merrick on 364 2390. If you change your mind about being in the project, that is OK too.

Anything which has your name written on it will be locked up in Megan's office at the College of Education and any documents which have your name on them will be destroyed after the study is finished. A report of the study will be available to you once the study is finished. When the study has been written up, it will be put on the University's library website so if anyone wants to read it they can. The University of Canterbury Human Ethics Committee have also said that it is OK for Megan to do this study.

If you have any questions about the project, you can talk to either Megan or her university teacher, Mrs Gaye Tyler-Merrick.

If you are worried about the project, you or someone you can trust can email The Chair, University of Canterbury Human Ethics Committee.

Thank you ☺

Megan Swney.

The Chair
University of Canterbury Human Ethics Committee

Gaye Tyler-Merrick
Senior Supervisor

Els Desart
Dog Trainer
info@trainimals.com

APPENDIX B

College of Education

Megan Swney
University of Canterbury
Dovedale Avenue
Ph.
Email:

Date:

The Effects of Video Self-Modelling on Four Children with Dog Fears

Information Sheet for Parents

Dear

I am a Masters student at the College of Education, University of Canterbury. For my Masters thesis, I am studying how useful video self-modelling will be for children who have a fear of dogs.

I am inviting you and your child to participate in my study. This will involve talking to your child about their fear and inviting them to complete a questionnaire about their fear of dogs, and then developing with you and your child a way to help them overcome their fear by using small steps, also known as a hierarchy scale. This may take up to one hour. As part of the study, your child will then be asked to take part in developing a short video which will show them working their way through their steps toward their desired goal. If a dog is used in the video, a separate clip will be filmed using only the dog and the final video will look as though your child and the dog were filmed together. This may take up to two hours, depending on how many different shots will be needed in the video. If extra dogs are needed at any stage i.e. during filming, these will be supplied by Els Desart, a dog trainer from Trainimals based in Christchurch.

A book about dogs and dog behaviour will also be given to your child to read alongside the video for a two week period. After the two week period, your child will be asked to complete a short quiz based on the information in the book they read previously.

Participation in this study is voluntary, and you and your child have the right to withdraw from the study without further penalties. The final date for withdrawing from the study is

XX/XX/2012. If you do decide to take part in the study but decide to withdraw before the cut off date, I will do my best to remove any information relating to you and your child.

For confidentiality and anonymity, both you and your child will be given a code name throughout the study which protects your identity. Any information that contains you or your child's name will be kept in a locked room at the College of Education. Access to the information/data about your child includes me and my two supervisors, Mrs Gaye Tyler-Merrick and Associate Professor Karyn France.

Any research or documents containing you or your child's name will be destroyed after the study, and any published or reported results of the study will protect the identity and anonymity of both you and your child. A report of the study will be available to you once the study is complete. When the study is written up and complete, it will be made a public document on the University of Canterbury website via the UC library database, however please remember that no names will be included in the final copy. This study has also been reviewed and approved by the University of Canterbury Human Ethics Committee.

If you have any questions about my study, please contact either myself or my senior supervisor, Gaye Tyler-Merrick.

My study has received ethical approval from the University of Canterbury Human Ethics Committee. If you have any complaints regarding my study, please contact The Chair, University of Canterbury Human Ethics Committee.

Sincerely,

Megan Swney.

The Chair
University of Canterbury Human Ethics Committee

Gaye Tyler-Merrick
Senior Supervisor

Els Desart
Dog Trainer
info@trainimals.com

APPENDIX C

College of Education

Megan Swney
University of Canterbury
Dovedale Avenue
Ph.
Email:

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

The Effects of Video Self-Modelling on Four Children with Dog Fears

Consent Form for Child

(Please tick each box)

☐ I have read the information sheet and understand what I will be doing when I take part in this study.

☐ I have been given the chance to ask Megan questions about the project.

☐ I understand that if I take part in the study, it will involve me being around dogs with Megan and my parents. I will not have to go closer than I and my parents want me to.

☐ I understand that it is my idea to take part in the study and that I can withdraw from the study before XX/XX/2012 without any problems.

☐ I understand that Megan will only tell her two university teachers, Mrs Gaye Tyler-Merrick and Associate Professor Karyn France, and the dog trainer Els Desart who I am.

☐ I understand that Megan might tell other professionals and interested people about the project but no-one will know it was me who took part.

☐ I understand that anything with my name on will be kept locked up and will be destroyed once the study has been completed.

☐ I understand that the final copy of the study will be made public on the University of Canterbury library website so that anyone can read it, but my name or my parents names will not be on the final copy.

☐ I understand that this study has been approved by the University of Canterbury Human Ethics Committee.

☐ I understand that I can contact Megan and get a copy of a report on the findings of the study.

☐ I understand that if I have any questions about the project I can contact either Megan or her university lecturer, Gaye Tyler-Merrick.

☐ I understand that if I am worried at all about the project I or someone I can trust can contact The Chair of the Human Ethics Committee.

Your name: _____

Signature:
_____

Date: _____

APPENDIX C

College of Education

Megan Swney
University of Canterbury
Dovedale Avenue
Ph.
Email:

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

The Effects of Video Self-Modelling on Four Children with Dog Fears

Consent Form for Young Child

(Please tick each box)

☐ Megan has told me about her project and I have been allowed to ask questions.

☐ I know that if I want to take part in the project I will get some help with my fear of dogs. This will involve me being around dogs, with Megan and my parents and the dog trainer Els Desart.

☐ I understand that taking part is my idea and I know that I can change my mind at any time and it will be OK with everyone.

☐ I know that my parents and I will have code names in the project so no one knows our real names.

☐ I know that Megan will only tell her two university teachers, Mrs Gaye Tyler-Merrick and Assoc Professor Karyn France, and the dog trainer, Els Desart who I am. I also know that Megan might tell other teachers and interested people about the project but no-one will know it was me who took part, because Megan won't use my real name or my Mum and Dad's name.

☐ I know that I will be around dogs, with Megan, my parents and the dog trainer Els Desart. I know I will only approach dogs that are trained to be calm with children or behind a fence or on a leash and I do not have to go any closer than me or my parents want me to.

☐ I know that any information about me will not be told to anyone else and will be locked in a safe place. My parents and I will receive a report about Megan's project if we want one.

☐ I know that the final copy of the study will be on the University of Canterbury's library website and that anyone can read it, but they won't know it was me who took part because Megan will change my name.

☐ I know that if I have any questions about the project I can ask either Megan or her university teacher, Mrs Gaye Tyler-Merrick

☐ I know that if I am worried about the project I will tell Mum and Mum knows who to tell.

Your name: _____

Signed by you (or parent signing on behalf of you):

_____

Date: _____

APPENDIX C

College of Education

Megan Swney
University of Canterbury
Dovedale Avenue
Ph.
Email:

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

The Effects of Video Self-Modelling on Four Children with Dog Fears

Consent Form for Parents

(Please tick each box)

☐ I have been given a full explanation of this project and have been given an opportunity to ask questions.

☐ I understand what will be required of me and my child to take part in this project.

☐ I understand that participation is voluntary and that I may withdraw myself and my child without further penalty.

☐ I understand that any information I provide about my child will be kept confidential to the researcher and that any published or reported results will not identify me or my child.

☐ I understand that all research will be kept in a locked room at the College of Education and that all documents which contain my name or my child's name will be destroyed after the study.

☐ I understand that the final copy of the thesis will be made a public document via the University of Canterbury library database.

☐ I understand that I have the opportunity to receive a report on the findings of the study. I have provided my email details below for this.

☐ I understand that this study has been reviewed and approved by the University of Canterbury Human Ethics Committee.

☐ I understand that if I require further information I can contact the researcher, Megan Swney or the senior supervisor, Gaye Tyler-Merrick. If I have any complaints, I can contact The Chair of the Human Ethics Committee.

By signing below, I agree for myself and my child to take part in this research project.

Name: _____

Date: _____

Signature: _____

Email address: _____

APPENDIX D

This Dog Is Happy!

How to tell what a dog is thinking and feeling.

Dogs come in many different colours and sizes. Some are small like a cat and some are almost as big as a pony. Some dogs have ears that stand up and some have ears that flop down. Their tails are different too. They can be short and pointy, or long and curly.

To understand what the dog is feeling and thinking, you need to look at their different body parts.

This dog looks happy

How to tell what a dog is feeling and thinking:

Tail- the tail is an important part of a dog's body that they use to let us know how they are feeling. If the dog is happy, their tail will wag from side to side in a relaxed way. If the dog is scared, they will put their tail between their legs. If the dog is angry, their tail will wag stiffly.

Ears- a dog with its tail wagging and ears up is a happy dog (although some dogs with floppy ears cannot put their ears up). A dog with its ears back and

close to its head is angry, worried or scared and should be left alone.

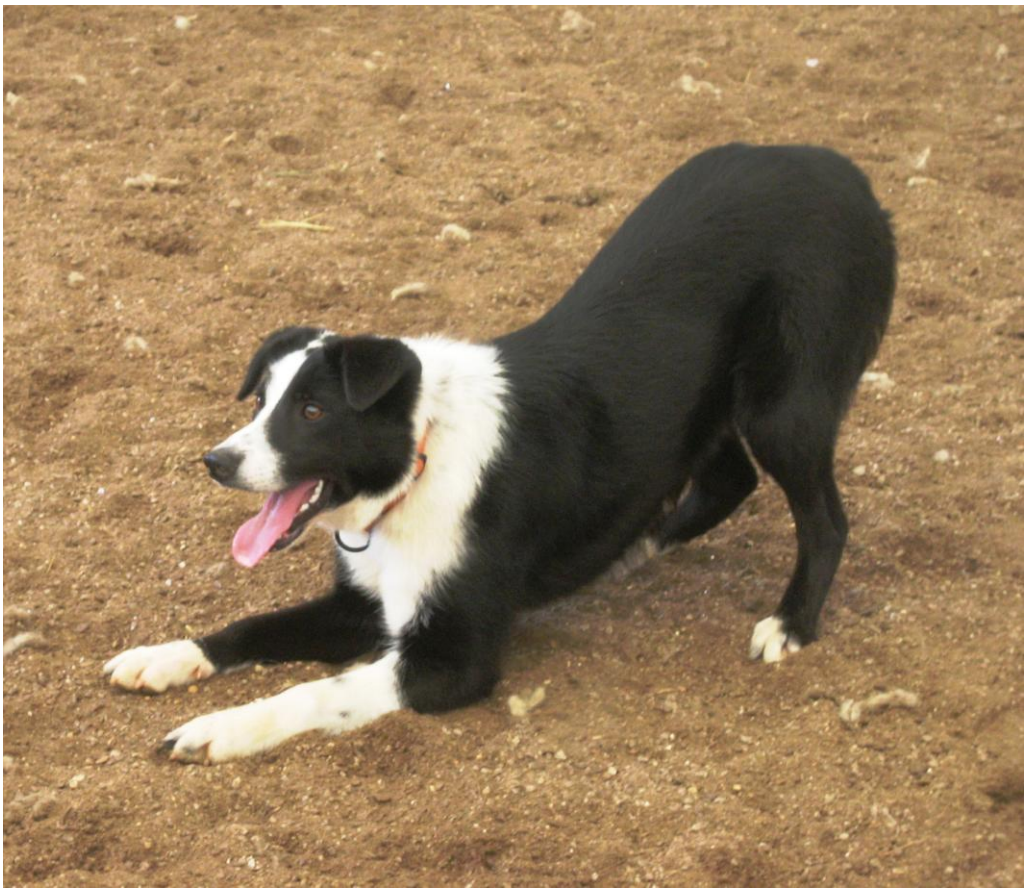
***Mouth*- the dog's tongue might be hanging out if he is happy. Some dogs look like they are smiling when they are happy. If the dog is scared or angry, they might growl, show their teeth, or shut their mouth really tightly. They might also bark. Sometimes dogs bark when they are happy too, this just means they are happy to see you and want to play.**

This dog looks happy

This dog looks angry

Play Bow-what does it mean?

When the dogs back legs are up, the front legs and down and they are looking up at you, they are doing a play bow position. Their tongue may be out of their mouth. This dog position has two meanings- one is that they are asking you or another dog to play with them. The other meaning is that he is feeling a bit scared and is showing you that he isn't dangerous.



The top dog is showing you he wants to play; the bottom dog is showing you he is feeling scared and he isn't dangerous.

How to be safe around dogs:

-Always ask your parents or the owner of the dog if you are allowed to pat the dog

-if a dog is eating or drinking, wait until they have finished to approach them

-if the dog is tied up, walk slowly around the dog so you don't scare it.

How to approach a dog:

Walk slowly toward the dog, making sure you are not staring directly at the dogs face.

Place your hand out slowly to the dog so they can sniff you to make sure you aren't a threat to them.

What to do if a dog runs up to you:

If a strange or scary dog comes up to you, turn your body away from the dog and then freeze (stand very still). This will show to the dog that you want to be left alone. Make sure that your arms and hands are pressed down to your sides. Make sure you are looking away from the dog too; you can either look at your shoes or a spot on the ground. The dog will then move away.

Congratulations! You now know how to tell what a dog is thinking and feeling, and how to be safe around dogs! Make sure you practise these steps when you next see a dog in your neighbourhood.

Acknowledgements for this book: Pang, E. & Louie, H. (2008). *Good dog!: Kids teach kids about dog behaviour and training.* Washington, USA: Dogwise Publishing.

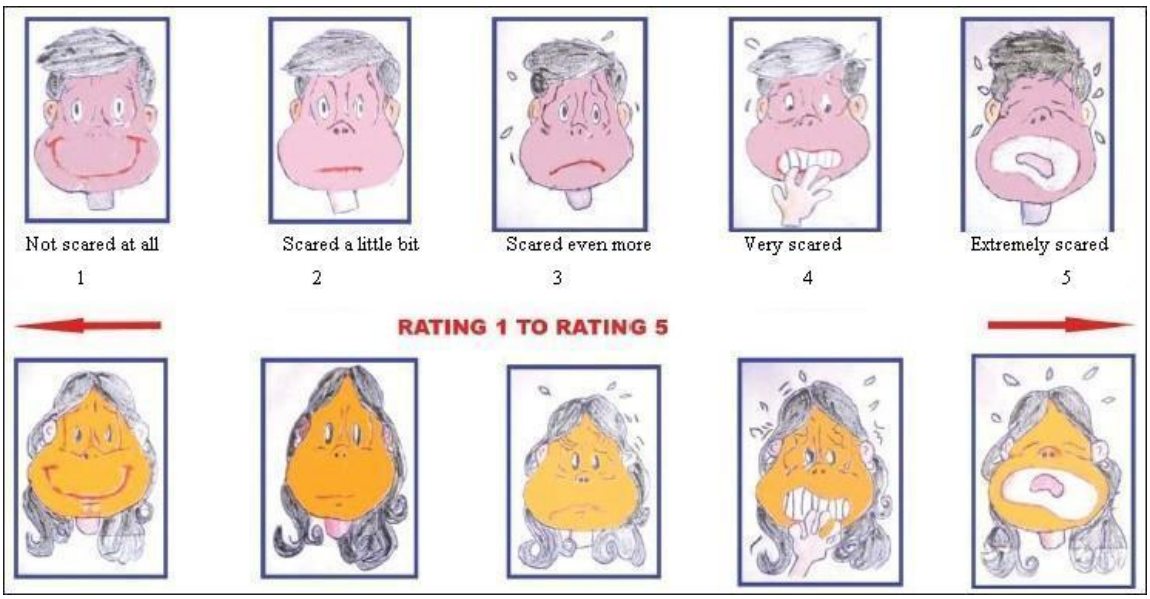
APPENDIX E

Dog Scenario Questionnaire: Name:

- Seeing a dog 10 metres away
- Seeing dog on the other side of the road
- Seeing a dog down the street while you are in the car
- Walking past a house with a dog behind a locked gate
- Seeing a dog past your house while you are inside
- Seeing a dog past a friend's house while you are inside
- Walking to the dairy and seeing a dog in the park off its lead with its owner
- Walking through the park with someone and seeing a dog on a lead
- Seeing a guide dog

APPENDIX F

Dog Scenario Scale



APPENDIX G

Name:
Date:

Dog Behaviour and Safety Quiz:

Circle the answer you think is correct.

- If a dog is scared, where do they normally put their tail?

a. Up in the air
b. Between their legs
c. Wag it from side to side

- If a dogs ears are standing up, this usually means they are:

a. Sad
b. Angry
c. happy

- What might a dog do if they are angry?

a. Wag their tail stiffly, put their ears back and close to their head, and show their teeth and may bark
b. Put their tail between their legs, have their ears up and have their tongue out
c. Lie on their back

- Play bow has two meanings-what is one of them?

a. They are asking you or another dog to play with them
b. They are tired and want to sleep

c. They are hungry

- If a dog is eating or drinking, you should:

a. Pat them on the head
b. Give the dog more food
c. Wait until they have finished eating or drinking, and then approach them.

- How do you approach a dog?

a. Walk over slowly, then place your hand out so the dog can sniff you and make sure you aren't a threat to them
b. Sit on the ground and wait for them to approach you
c. Call the dog over and pat them on the head

- What do you do when a dog runs up to you?

a. Run away
b. Turn away from the dog and stand very still, making sure you don't look at the dog
c. Chase it

APPENDIX H

Video and Book Chart

Place a tick in the box each time you watch your video and read your book ☺
(minimum of six times for each)

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Book: Video:	Book: Video:	Book: Video:	Book: Video:	Book: Video:	Book: Video:	Book: Video:

Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14
Book: Video:	Book: Video:	Book: Video:	Book: Video:	Book: Video:	Book: Video:	Book: Video:

Comments: